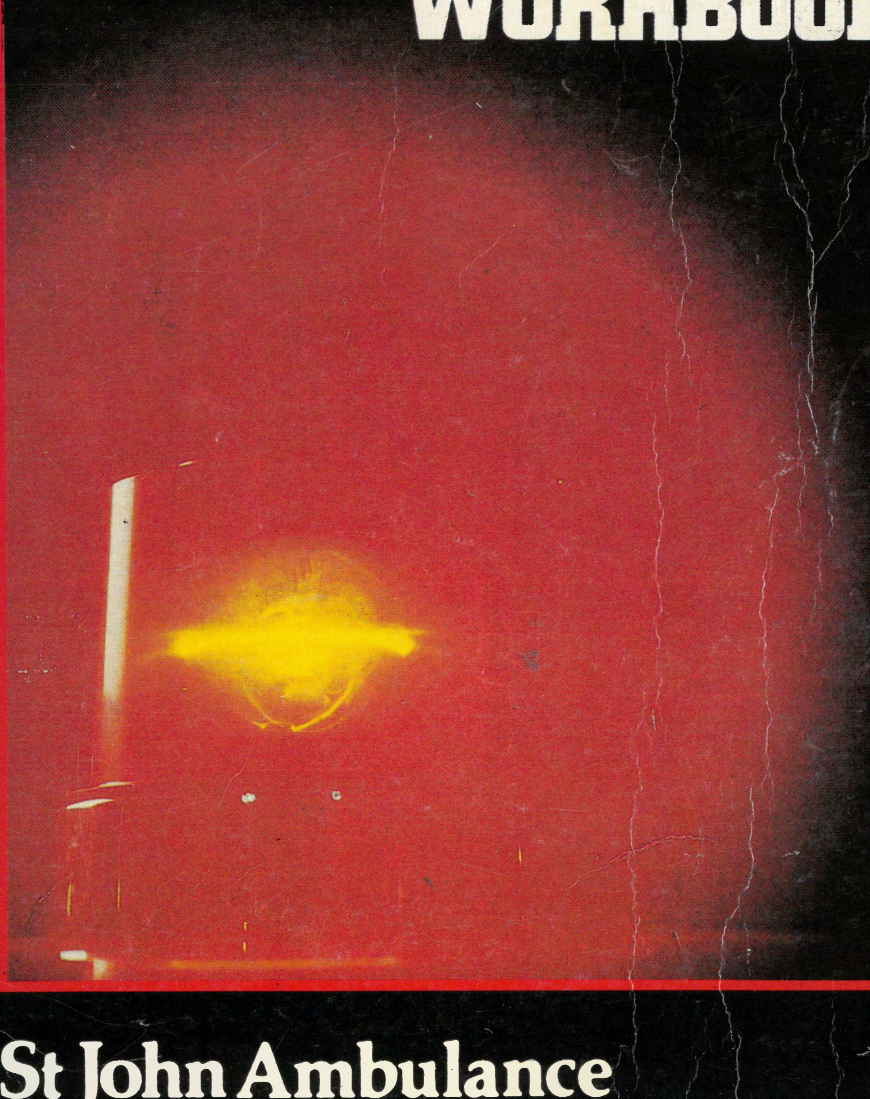
LATEST STANDARDS FOR AR, CHOKING AND CPR

EMERGENCY FIRST AID

safety oriented

MODULAR COURSE

WORKBOOK



St John Ambulance

EMERGENCY FIRST AID WORKBOOK

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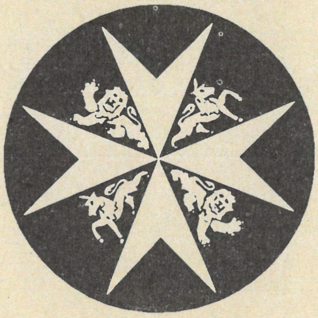
SAFETY ORIENTED

Emergency No: 10177

MODULAR COURSE

WORKBOOK



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FOREWORD

This self-instruction workbook will help you to learn the first aid theory for the Emergency First Aid Modular Course and it will prepare you for the final written examination.

Your Instructor will tell you which workbook exercises to complete and when to do them.

FIRST AID SKILLS AND CPR SKILLS IN PARTICULAR, DETERIORATE VERY QUICKLY UNLESS THEY ARE PRACTISED REGULARLY. ANNUAL RECERTIFICATION IN CPR IS CONSIDERED ESSENTIAL.

Emergency First Aid Safety Oriented, First Edition (Revised), is the reference manual for this course.

You may use the manual as -

- Supplementary reading during the course, if time permits; or
- Reference material after the course.

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NOTES

Exercise 1 USE OF THE WORKBOOK; PRINCIPLES OF FIRST AID AND SAFETY; EMERGENCY SCENE MANAGEMENT

You will have 23 minutes to complete this exercise (pages 1-1 to 1-24)

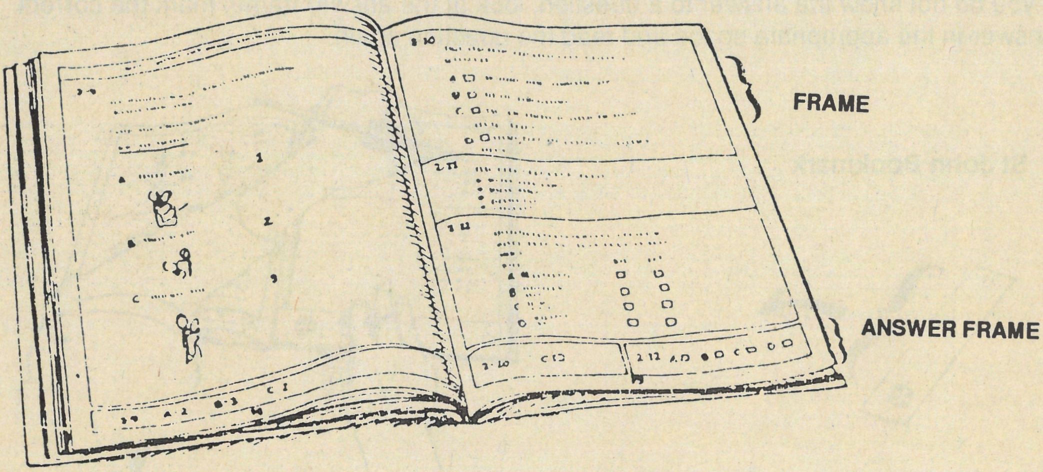
USE OF THE WORKBOOK

1-1

Before starting Exercise 1, you should have completed the **REGISTRATION FORM** contained at the back of this Workbook and handed it to your Instructor.

Your Instructor will ask you to work through several exercises in this workbook.

Each exercise consists of teaching units called **FRAMES**. Each frame is numbered.



1-2

Each frame in this book contains -

- **INFORMATION** for you to read

  OR

- **A QUESTION** for you to answer

The correct answer to the question appears in the **ANSWER FRAME** at the bottom of the page.

When there is **MORE THAN ONE** question frame on a page, the correct answers appear in separate answer frames.

1-3

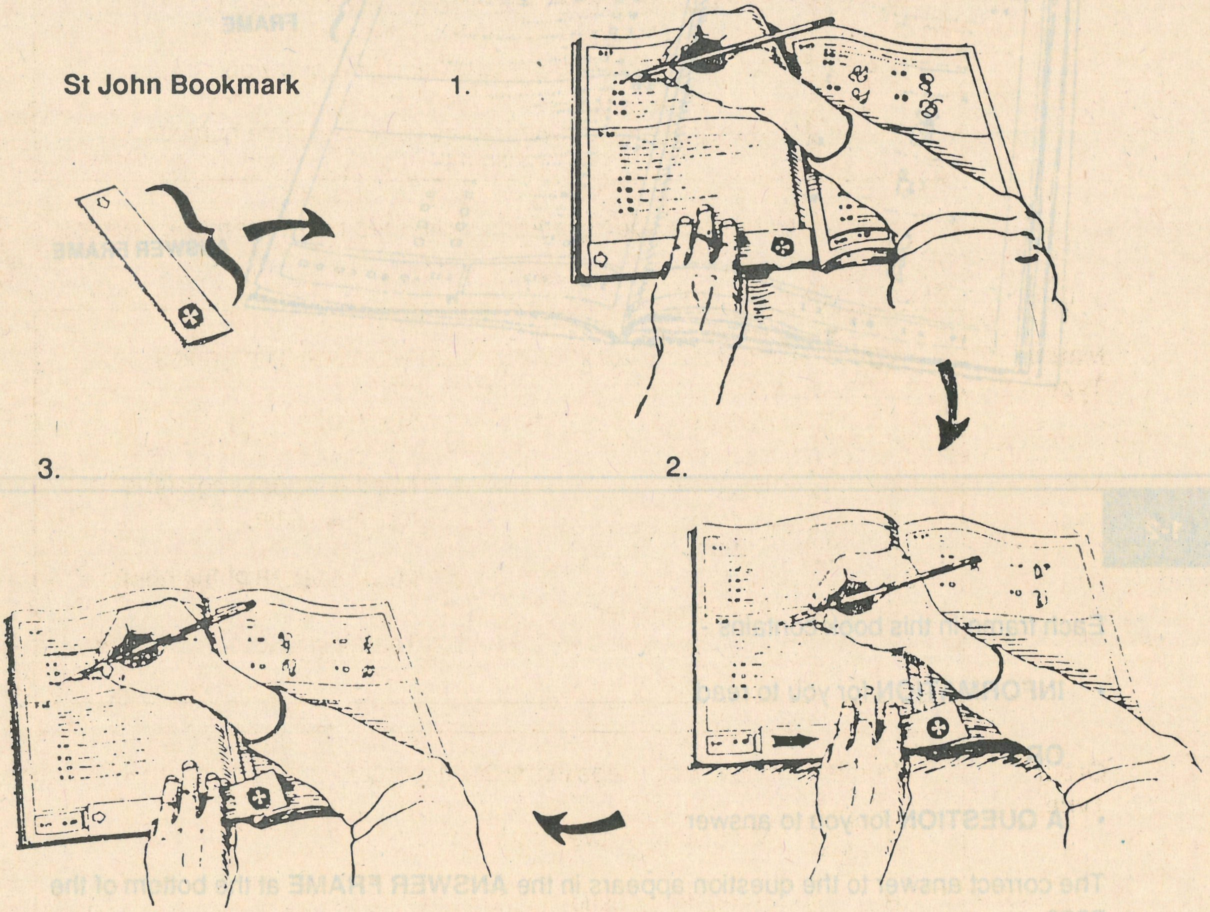
To use the workbook:

1. Use your **BOOKMARK** to cover the **ANSWER FRAME** at the bottom of the page until you have marked your answers to the questions.

2. To check your answers, slide the bookmark to the **RIGHT** as far as the **SOLID LINE** at the end of the answer frame. The correct answers will be revealed in the answer frame.

3. If your answer is wrong, read the question again. Draw a line through your incorrect answer and write in the correct one.

If you do not know the answer to a question, look at the answer frame, mark the correct answer in the appropriate space and read the question again.



1-4

Several types of questions are used in this workbook. Four examples are given below.

True or False Type

Mark each statement true **(T)** or false **(F)**.

A. [T] Each workbook exercise consists of frames.

B. [F] The answer frame is found at the top of each page.

Multiple Choice Type

Tick (✓) the correct statement(s).

A. ☑ Teaching units in this book are called frames.

B. ☐ The frames in each exercise are not numbered.

C. ☑ A frame may contain information or a question.

D. ☑ Question and answer frames have the same number.

NOTE: Multiple choice questions may have more than one correct answer.

Match Type

Write a number in the box to match each word with its meaning.

		Words		**Meanings**
A.	[2]	Exercise	1.	Number appearing at the top of a frame.
B.	[3]	Frame	2.	Major division of the book.
C.	[1]	Frame number	3.	Teaching unit.

Order Type

Number the following steps in the correct order.

A. [2] Mark your answer in the box.

B. [1] Read the question in the frame.

1-5

FIRST AID is emergency care given to an injured or ill person to -

- **KEEP THE PERSON ALIVE**
- **PREVENT AN INJURY OR ILLNESS FROM BECOMING WORSE**
- **HELP THE PERSON RECOVER MORE QUICKLY**

A person who requires first aid is called a **CASUALTY**.

Most casualties who have received first aid will require medical assistance as soon as possible.

MEDICAL ASSISTANCE is the professional treatment given by or under the direction of a doctor at or on the way to a hospital or clinic.

1-6

Mark each statement true **(T)** or false **(F)**.

A. ☐ T First aid is help that you give to a person who has had an accident.

B. ☐ F Medical assistance is not necessary when first aid has been given.

C. ☐ T First aid may save a casualty's life.

D. ☐ F In first aid, an injured person is called a patient.

E. ☐ T First aid may keep a person's condition from getting more serious.

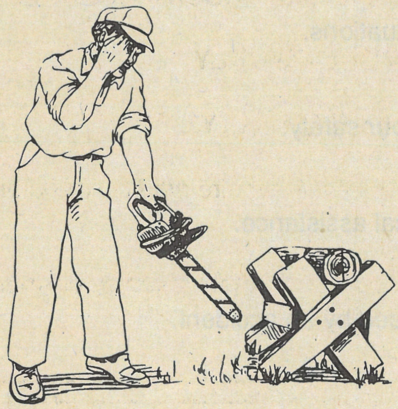
F. ☐ T First aid can speed up the casualty's healing.

1-6

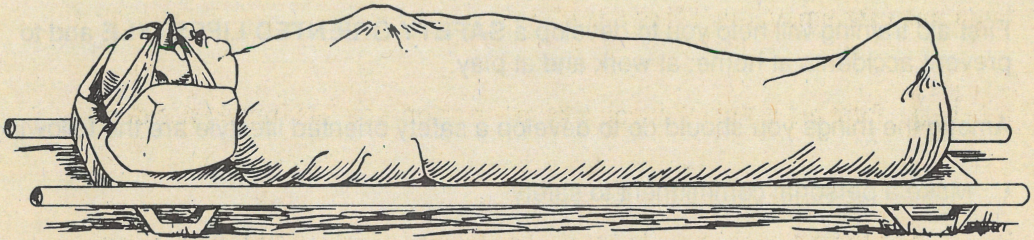
A.	B.	C.	D.	E.	F.
T	F	T	F	T	T

SAFETY ORIENTED FIRST AID TRAINING makes you aware of -

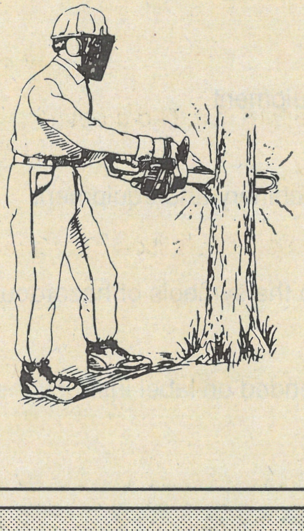
- **WHY** an accident happens



- **WHAT** injuries may result from an accident



- **HOW** accidents and injuries can be prevented



1-8

Tick (✓) the correct completions of the following statement.

First aid training -

A. ☐ T Alerts you to dangerous situations.

B. ☐ T Helps you to think about your safety.

C. ☐ F Teaches you to give medical assistance.

D. ☐ T Alerts you to the harm caused by an accident.

1-9

First aid training will help you to develop a **SAFETY ORIENTED LIFESTYLE** and to prevent accidents at home, at work and at play.

Among the things you should do to develop a safety oriented lifestyle are the following -

- Make a personal commitment to safety
- Follow safety rules
- Adopt safety practices
- Use protective clothing and equipment
- Learn the safe operation of machinery and equipment
- Recognize and pay attention to the symbols of hazardous products
- Take the precautions recommended on label instructions of hazardous products

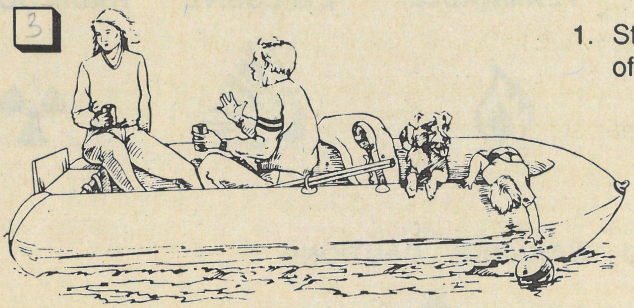
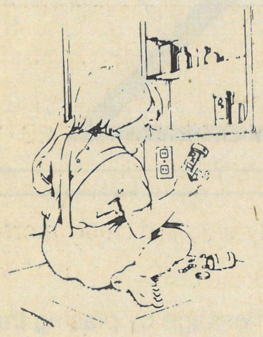
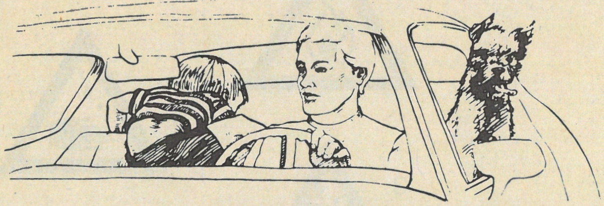
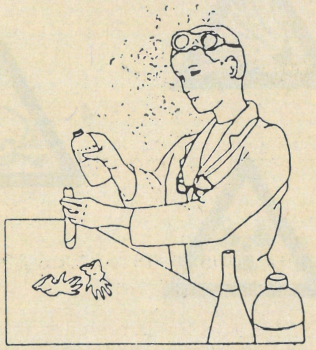
1-8

A. ☑ **B.** ☑ **D.** ☑

1-10

Each picture illustrates a dangerous situation.

Write into the boxes the appropriate number to match each picture with the safety practice that would prevent an accident.

Dangerous Situations	Safety Practices
A. 3 	1. Store all medicine out of the reach of children.
B. 1 	2. Wear face and hand protection when working with chemicals and hazardous products.
C. 4 	3. Wear life jackets for water sports.
D. 2 	4. Follow rules of safe driving.

1-10

A. 3 B. 1 C. 4 D. 2

SYMBOLS OF HAZARDOUS PRODUCTS

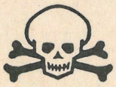
1-11

Many accidents could be prevented by paying attention to the symbols displayed on the labels of hazardous products.

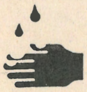
SYMBOLS OF HAZARDOUS MATERIALS IN THE HOME

Each symbol shows the nature of the hazard -

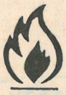
POISON



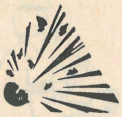
CORROSIVE



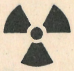
FLAMMABLE



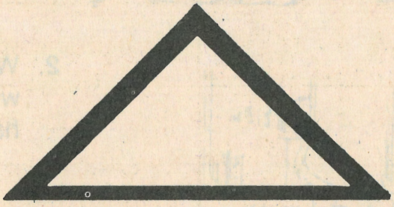
EXPLOSIVE



RADIATION



The Triangle indicates **DANGER! WARNING! CAUTION!**



Shape: Triangular
Colour: Black border, yellow centre.
Pictogram: Black

1-12

Match each symbol with the corresponding safety message by placing the appropriate number into the boxes provided.

A. 2 Danger corrosive

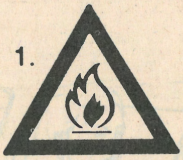
B. 5 Danger radiation

C. 3 Danger explosive

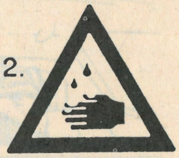
D. 1 Caution flammable

E. 4 Warning poison

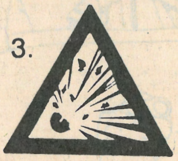
1.



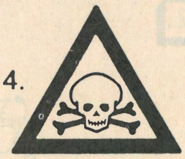
2.



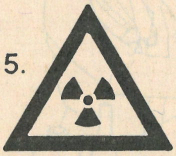
3.



4.



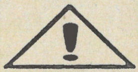
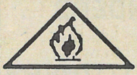
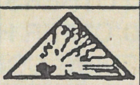
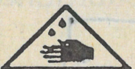
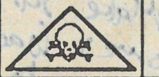
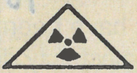
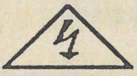
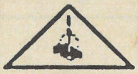
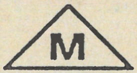
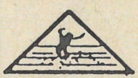
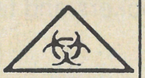
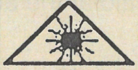
5.



1-12

A. 2 B. 5 C. 3 D. 1 E. 4

SYMBOLS OF HAZARDOUS MATERIALS IN THE WORKPLACE

Type	Symbol	Warning
WW1		General warning of danger
WW2		Fire hazard
WW3		Explosion hazard
WW4		Corrosion hazard
WW5		Poisonous substances hazard
WW6		Ionizing radiation hazard
WW7		Electric shock hazard
WW8		Suspended loads hazard
WW9		Methane hazard
WW10		Warning of fragile roof
WW11		Biological hazard
WW12		Warning of laser

Extracted from the *SA Bureau of Standards Symbolic Safety Signs*
SABS 1186-1978 Amended 1987

Fig 1-2. Workplace hazards warning symbols

The SABS (South African Bureau of Standards) symbols displayed in the above table are for general information and to increase your safety awareness at work. This content will not be questioned.

1-14

In an **EMERGENCY SITUATION** you should use the **PRIORITY ACTION APPROACH (PAA).**

PAA is the sequence of actions that should be followed by a First Aider at an accident/illness scene to give safe and appropriate first aid for life-threatening conditions. Although circumstances may dictate that the order of the steps in PAA be changed, they should usually be performed in the following sequence -

- **TAKE CHARGE OF THE SITUATION**
- **CALL OUT FOR HELP TO ATTRACT BYSTANDERS**
- **ASSESS THE HAZARDS**
- **MAKE THE AREA SAFE FOR YOURSELF AND OTHERS**
- **IDENTIFY YOURSELF AS A FIRST AIDER AND OFFER HELP**
- **ASSESS THE CASUALTY FOR LIFE-THREATENING CONDITIONS**
- **GIVE FIRST AID FOR LIFE-THREATENING CONDITIONS**
- **SEND SOMEONE TO CALL FOR HELP**

Ask: ~~Can~~ May I help you?

if they say no, you cannot

but you must stay with person till you hand over to person with higher authority

if suicide, talk them through it.

If the person is unconscious, you can do your first aid.

Number of casualties
Address, landmarks

Nature of injury.
condition of casualty

Make sure he comes back and reports to you

Organize bystanders to - help make the area safe
- ensure that all casualties have been found
- call ambulance, police, electricity department, etc.
- assist with first aid as directed

1-15

Mark each statement true **(T)** or false **(F)**.

A. T It is up to the First Aider to organize onlookers and tell them how they can help.

B. F If there are several people trained in first aid at the accident scene, all take the leadership role.

C. T The First Aider should recognize the risks and use safety precautions to protect himself, the casualty and onlookers.

D. F On arrival at an accident scene, all injuries should be discovered and treated immediately.

E. F Priority Action Approach is always performed in the same order regardless of the type of injury or illness.

1-15

A. T B. F C. T D. F E. F

1-16

The three **PRIORITIES** of first aid are **stopped breathing**, **severe bleeding** and **unconsciousness**. These are all **threats to life** and must be assessed in the **primary examination** which is part of **PAA**.

The order in which you must give immediate first aid for these conditions is -

FIRST - STOPPED BREATHING

A

B

SECOND - SEVERE BLEEDING

THIRD - UNCONSCIOUSNESS

1-17

An unconscious casualty is bleeding profusely and not breathing.

Which condition must you attend to first?

A. ☐ Unconsciousness.

B. ☑ Stopped breathing.

C. ☐ Heavy bleeding.

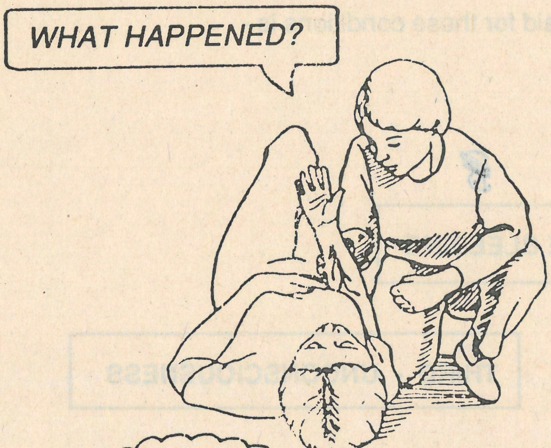
1-17

B. ☑

USE OF HISTORY, SIGNS AND SYMPTOMS

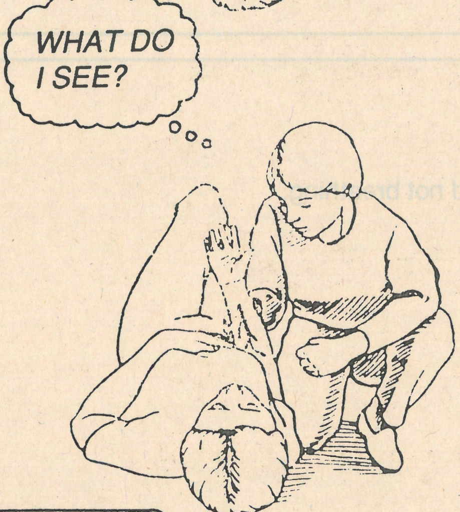
To give appropriate first aid to a casualty, you should know as much as possible about the accident or illness.

You need three kinds of information: **HISTORY, SIGNS** and **SYMPTOMS.**


WHAT HAPPENED?

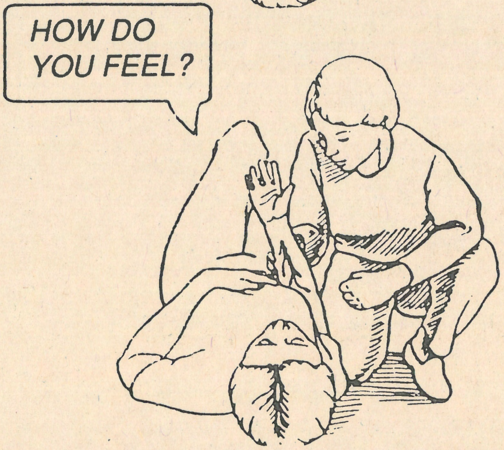
HISTORY

- **ASK** the conscious casualty what happened
- **ASK** bystanders what happened
- **OBSERVE** the scene


WHAT DO I SEE?

SIGNS

- **OBSERVE** the casualty
- **EXAMINE** for indications of injury or illness


HOW DO YOU FEEL?

SYMPTOMS

- **ASK** the conscious casualty how she feels
- **LISTEN** to the casualty's comments

1-19

Identify the information in each statement below as History, Signs or Symptoms by writing the appropriate number in the boxes provided.

1	**HISTORY**
2	**SIGNS**
3	**SYMPTOMS**

A. 3 A casualty tells you he feels cold.

B. 2 There is blood soaking through the jersey on a casualty's arm.

C. 2 A casualty's skin is cold and clammy to the touch.

D. 1 A man tells you that the casualty slipped on a patch of oil and fell.

E. 3 A young boy says he feels sick.

F. [illegible] 1 You see an empty bottle of sleeping pills near an unconscious person.

1-19

A. 3 B. 2 C. 2 D. 1 E. 3 F. 1

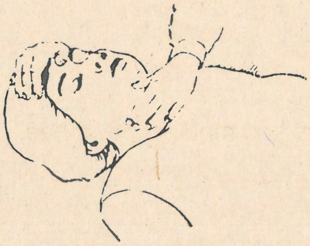
VITAL SIGNS

1-20

Three of the signs which are the most important and must be assessed when giving first aid are called the **vital signs**. These provide important information about the condition of the casualty.

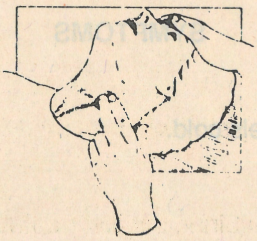
The **VITAL SIGNS** are -

- **TEMPERATURE**
(warmth of the skin)



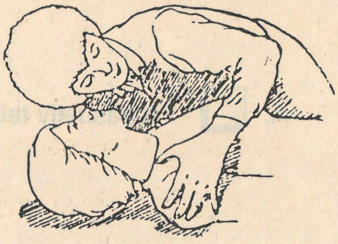
FEEL the forehead and neck for temperature

- **PULSE**
(number of times the heart beats in a minute)



ASSESSS the carotid pulse, noting rate, rhythm and strength

- **BREATHING**
(number of times a person breathes in a minute)



CHECK the quality of breathing, noting rate, rhythm and sound

ASSESS AND RECORD VITAL SIGNS AS A BASIS FOR SUBSEQUENT ASSESSMENTS

1-21

Tick (✓) from the examples below the observations that could help you to assess a casualty's condition.

A. ☑ The pulse becomes very slow and weak.

B. ☐ The casualty falls asleep.

C. ☑ Breathing becomes very fast and noisy.

D. ☑ The skin becomes cold to the touch.

E. ☑ The casualty starts gasping for air.

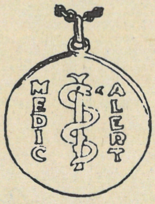
1-21

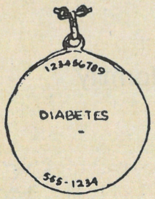
A. ✓ C. ✓ D. ✓ E. ✓

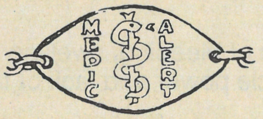
1-22

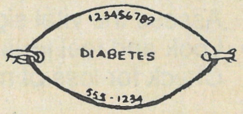
MEDIC-ALERT INFORMATION

Valuable information about the **HISTORY** of a casualty can often be found on a **MEDIC-ALERT** bracelet or necklace.









A **MEDIC-ALERT** device is a warning sign which alerts First Aiders and medical personnel that the person wearing it -

- Has a **MEDICAL CONDITION** requiring special treatment

or

- Is **ALLERGIC** to certain substances (e.g. medications, plants, foods, insect bites)

1-23

Mark each statement true **(T)** or false **(F)**.

A. ☐ T A person whose arm swells and has difficulty breathing after a bee sting may wear a Medic-Alert necklace.

B. ☐ T Important facts about the condition of an unconscious casualty may be revealed on a Medic-Alert bracelet.

C. ☐ T You may find medical information in a casualty's wallet or handbag.

D. ☐ F Medic-Alert information will tell you what first aid to give.

1-23

A. T **B.** T **C.** T **D.** F

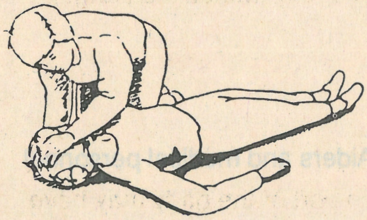
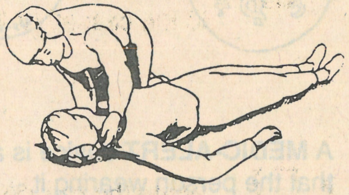
SECONDARY EXAMINATION

After you have given first aid for life-threatening conditions, you may have to perform a **SECONDARY EXAMINATION.**

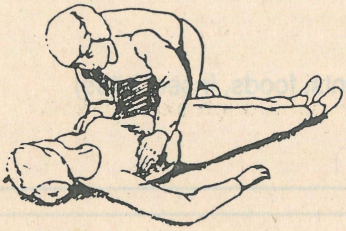
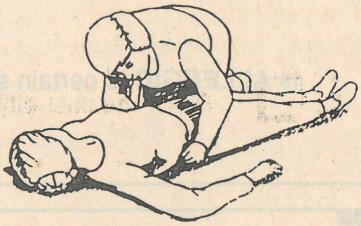
Examine the casualty from head to toe **IN THE POSITION FOUND.**

The examination must be **SYSTEMATIC -**

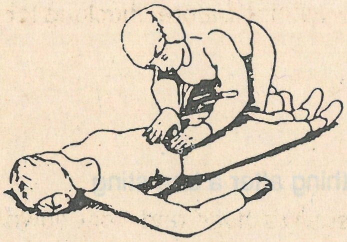
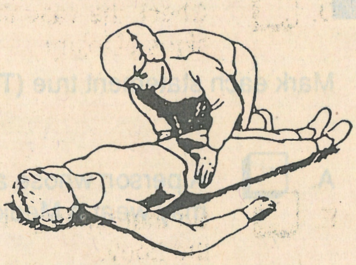
- Assess the vital signs
- Look and feel for signs of bleeding, swelling and deformity
- Check for loss of muscle power and lack of feeling

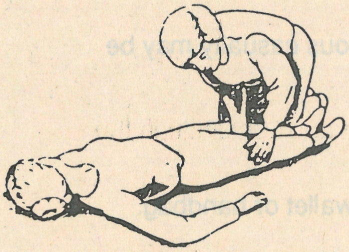
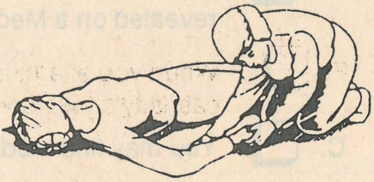
HEAD AND NECK

CHEST AND BACK

ABDOMEN AND HIPS

LEGS AND ARMS

GIVE FIRST AID FOR ANY INJURY YOU FIND

1-25

Tick (✓) the correct statements relating to the secondary examination.

A. ☒ A head-to-toe examination should be done to discover any immediate danger to the casualty's life.

B. ☑ When the casualty's life is no longer in danger, each part of the body may have to be examined carefully for signs of injury or illness.

C. ☒ Place the casualty in a comfortable position to allow a thorough examination.

D. ☑ Check the casualty's skin temperature, pulse and breathing before checking for signs of injury.

E. ☑ So that nothing is missed, start by checking the casualty's head and work down the body.

F. ☑ When you examine the limbs, check for movement and sensation in the casualty's toes and fingers.

1-25

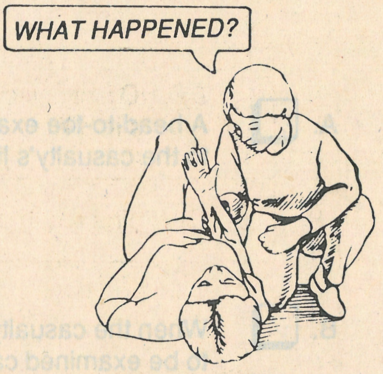
B. ☑ D. ☑ E. ☑ F. ☑

1-26

If the casualty is **CONSCIOUS**, a head-to-toe examination may still be necessary.

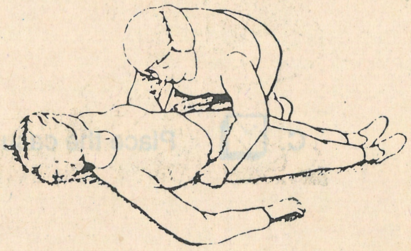
You should question her about the **HISTORY** of the incident and her **SYMPTOMS**. This information may lead you **DIRECTLY** to the injury or illness.

When the conscious casualty has no apparent signs of injury or illness, then examine her from head to toe.


WHAT HAPPENED?

If the casualty is **UNCONSCIOUS**, you must perform a secondary examination and rely on -

- The history of the incident as told to you by a bystander
- The surroundings of the accident
- An accurate interpretation of physical signs
- **EXAMINE** the casualty from head-to-toe **IN THE POSITION FOUND**
- **CHECK FOR MEDIC-ALERT INFORMATION** which may help you determine the required first aid



1-27

Tick (✔) the actions you should perform in the secondary assessment of a casualty.

A. ☒ Perform a thorough examination every time you give first aid.

B. ☑ Ask the conscious casualty what happened and how she feels.

C. ☒ Look for apparent injuries only.

D. ☑ When the casualty is unconscious, ask witnesses of the accident what happened.

E. ☑ On an unconscious casualty, look for a device indicating a medical condition requiring special care.

1-27

B. ☑ D. ☑ E. ☑

1-28

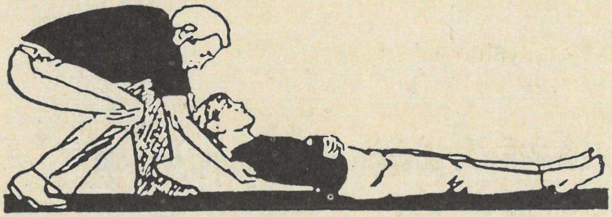
PRECAUTIONS WHEN GIVING FIRST AID

When you offer first aid, you are assuming **RESPONSIBILITY** for the care of the casualty.

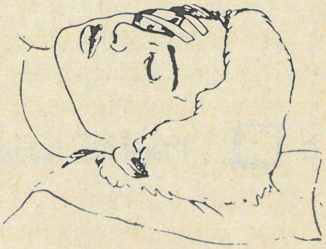
Certain **PRECAUTIONS** should be taken -

DO NOT give first aid to an adult who refuses help, unless in a life threatening situation

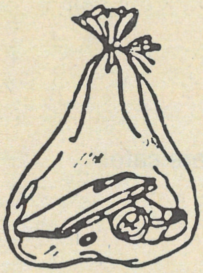
GIVE first aid to an unconscious person or a child who is alone.



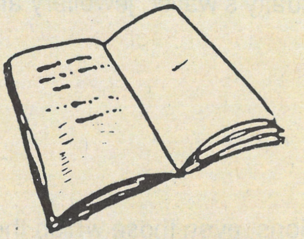
DO NOT MOVE the casualty except for reasons of safety.



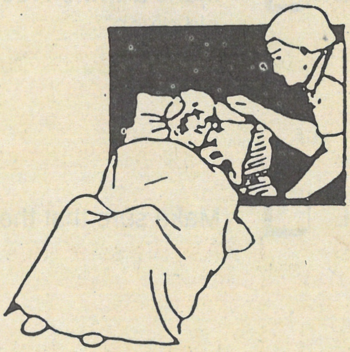
GIVE only that first aid which is necessary.



PROTECT the casualty's belongings and clothing.



TAKE detailed notes.



DO NOT leave the casualty until medical assistance arrives.

1-29

Mark each statement true **(T)** or false **(F)**.

When you are giving first aid at an emergency scene, you should -

A. ☒ Give first aid to all casualties, even if they insist they don't need it.

B. ☑ Care for the casualty until medical assistance arrives.

C. ☑ Place the casualty into the most comfortable position before giving first aid.

D. ☑ Make a written record of the important facts about the emergency and the first aid given.

E. ☑ Make sure that the casualty's wallet, jewellery and clothing are safe.

F. ☒ Give care for all conditions, even those which the casualty has had for a long time.

1-29

A. F **B.** T **C.** F **D.** T **E.** T **F.** F

1-30

As a First Aider, you have the **RESPONSIBILITY** to watch for certain signs which may indicate **CHILD ABUSE**.

These might be -

- **BROKEN BONES** in infants
- Unusually shaped **BRUISES** and **BURNS**
- A child's **OBVIOUS FEAR** of his parent or babysitter

TRY TO GET MEDICAL ATTENTION FOR ANY CHILD YOU SUSPECT HAS BEEN ABUSED

If medical assistance is not obtained, notify the local child welfare agency.

NEVER CONFRONT A PARENT OR BABYSITTER WITH ACCUSATIONS OF CHILD ABUSE

1-31

Which of the following signs could point to child abuse?

A. ☐ An injured three-year-old who runs from her father in terror.

B. ☐ A six-week-old baby who has a fractured arm.

C. ☐ A six-year-old who has a broken leg following a bike accident.

D. ☐ A five-year-old child who has dark handprints on his back, buttocks and chest.

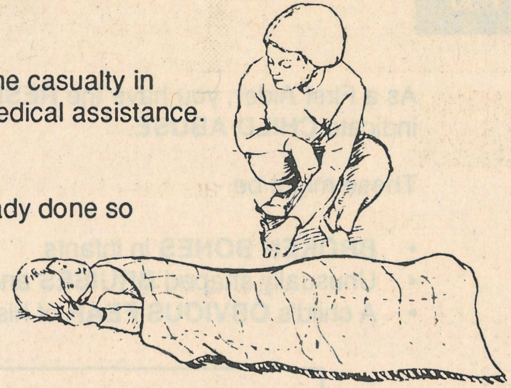
E. ☐ A four-year-old with several round bruises on her knees.

1-31

A. ☑ B. ☑ D. ☑

FOLLOW-UP CARE

1-32



After immediate first aid is given, you must **MAINTAIN** the casualty in the **BEST POSSIBLE CONDITION** until hand-over to medical assistance.

- **CALL MEDICAL ASSISTANCE** if you have not already done so
- **MONITOR** the casualty's condition closely
- **PROTECT** and **SHELTER** the casualty
- **PROVIDE** for medical assistance a record of the casualty's injuries or illness and the first aid given

ENSURE that the casualty who does not require medical assistance is placed in the care of friends or relatives

1-33

Which of the actions listed below should you take to care for a casualty following immediate first aid?

A. ☑ Keep the casualty safe, warm and comfortable.

B. ☑ Report to medical personnel on the casualty's condition and the help given.

C. ☑ Ensure that medical assistance is not delayed.

D. ☑ Check periodically how the casualty feels.

E. ☒ Allow the casualty, who no longer needs first aid, to go home by herself.

1-33

A. ✓ B. ✓ C. ✓ D. ✓

REVIEW: MODULE 1

1-34

Look, listen and feel for [illegible]

Look down [illegible] [illegible]

feel warm breath on cheek.

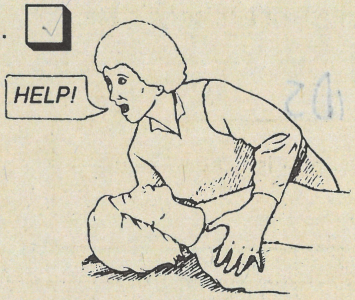
WATCH FOR BLOOD [illegible] FLUIDS

[illegible] plastic [illegible]

These questions are based on this workbook exercise, the practical session and the audio-visual.

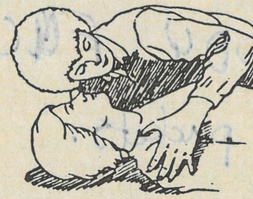
From the following illustrations, indicate (✔) the actions which are part of Priority Action Approach.

A. ☑



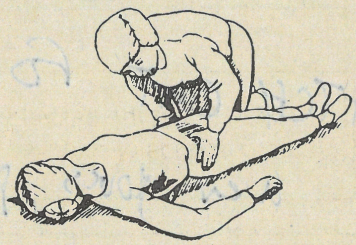
Take charge and call out for help.

B. ☑



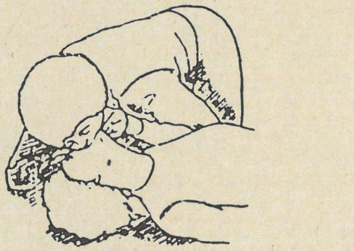
Assess the casualty for life-threatening conditions.

C. ☐



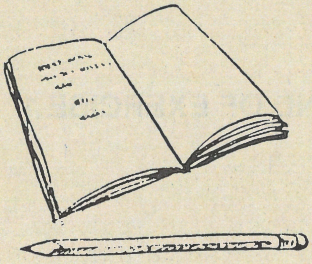
Examine the casualty thoroughly from head to toe.

D. ☑



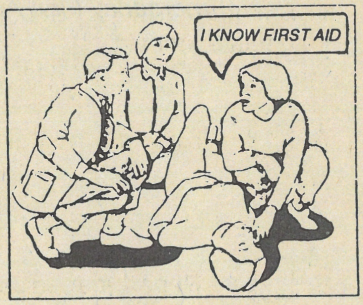
Give first aid for life-threatening conditions.

E. ☐



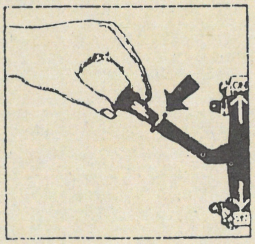
Take detailed notes.

F. ☑



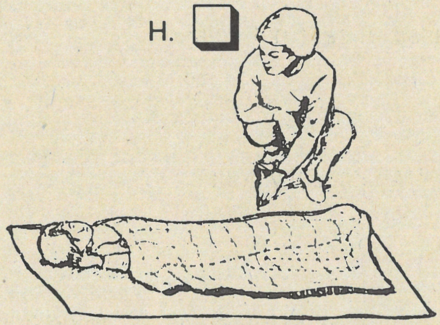
Identify yourself as a First Aider.

G. ☑



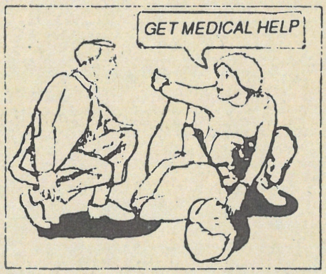
Assess hazards and make the area safe.

H. ☐



Monitor the casualty's condition until medical assistance arrives.

I. ☑



Send for medical assistance.

1-34

A. ✓ B. ✓ D. ✓ F. ✓ G. ✓ I. ✓

Unconsciousness

Kneel down! Tap on patients shoulders, shout into each ~~air~~ ear

Look, Listen and feel for air

Look down chest, with cheek and ear above mouth

Listen for breathing

Feel ~~wind on~~ breath on cheek.

WATCH OUT FOR BODY FLUIDS

Wear gloves, plastic packets.

For more information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapters 1, 6

END OF EXERCISE 1

Exercise 2 ARTIFICIAL RESPIRATION

You will have 10 minutes to complete this exercise (pages 2-1 to 2-12)

RESPIRATORY EMERGENCIES

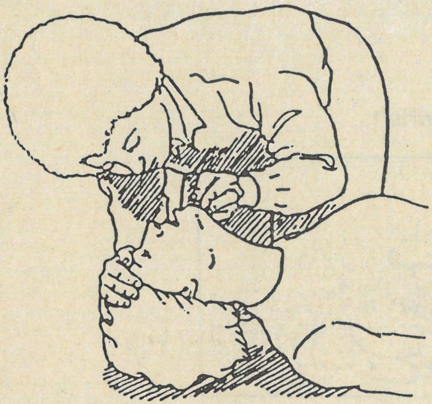
2-1

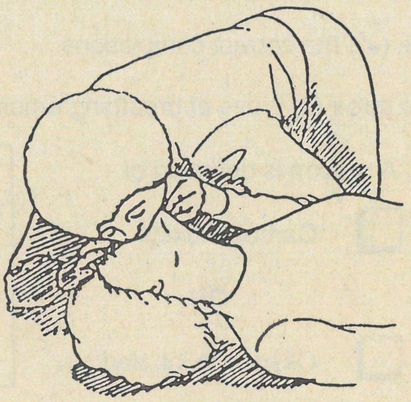
WE BREATHE TO LIVE

A respiratory emergency occurs when breathing stops.

After **4 MINUTES** without oxygen brain damage may result.

YOU MUST ACT IMMEDIATELY TO RESTORE BREATHING





2-2

Mark each statement true **(T)** or false **(F)**.

A. ☐ T A person who is not breathing is in a life-threatening condition.

B. ☐ T A person's brain may be harmed if she does not breathe for 4 minutes.

C. ☐ T You must begin first aid for stopped breathing without delay.

D. ☐ F Death occurs as soon as breathing stops.

E. ☐ F A person who has stopped breathing must be transported to hospital immediately.

2-2

A. T B. T C. T D. F E. F

2-3

There are many **CAUSES** of breathing emergencies. These will all fit into one of three main **TYPES** -

- **LACK OF OXYGEN IN THE AIR WE BREATHE**
- **OBSTRUCTED AIRWAY**
- **LOSS OF EFFECTIVE FUNCTION OF THE LUNGS AND HEART**

2-4

1 breath every five seconds

check pulse after 1 minute
(12 ventilations)

Tick (✓) the correct completions.

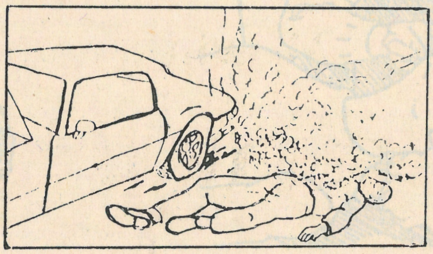
The three (3) types of breathing emergencies occur when:

A. A person is deprived of -

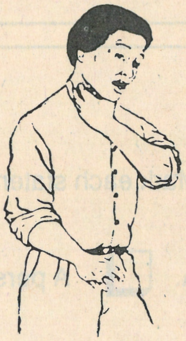
1. ☐ Carbon dioxide.

OR

2. ☑ Oxygen in inhaled air.



B. Air is not reaching a person's lungs because he is -



1. ☐ Coughing.

OR

2. ☑ Choking.

C. A person suffers from a condition which affects -

1. ☑ Breathing and circulation.

OR

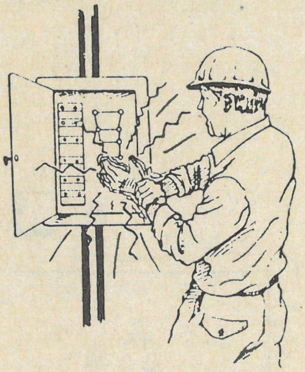
2. ☐ Sensations and movement.

2-4

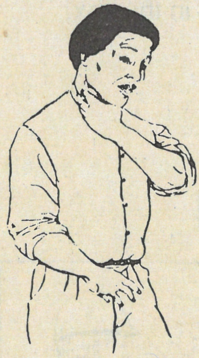
A. 2 B. 2 C. 1

2-5

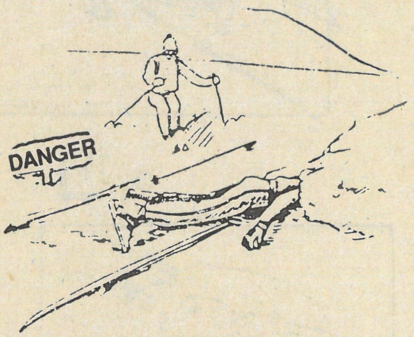
You can **PREVENT** most breathing emergencies if you -



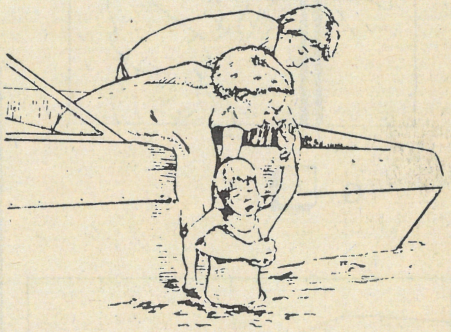
Turn off the electric current before working on electrical equipment.



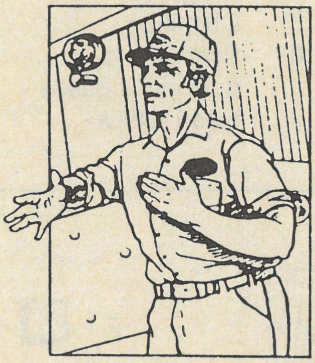
Take care when you eat and drink.



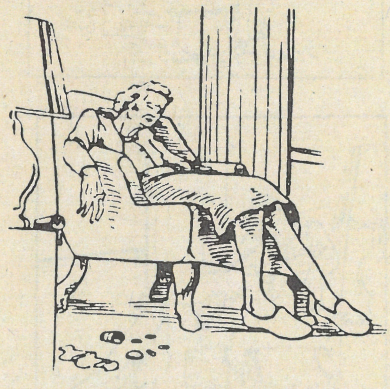
Observe warning **signs** and avoid hazards.



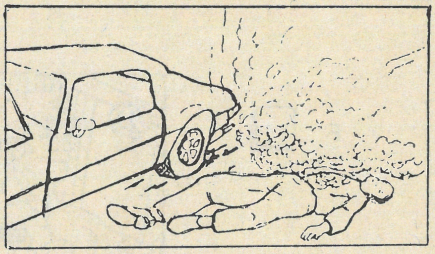
Observe **rules** of water safety.



Adopt a **healthy lifestyle**



Take medications **only** as directed.



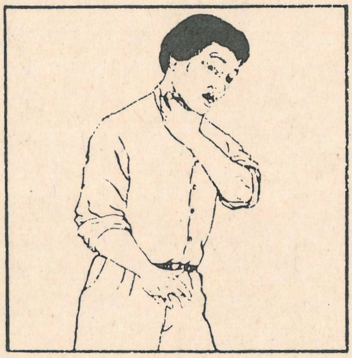
Ensure adequate **ventilation** when poisonous gases are present.

2-6

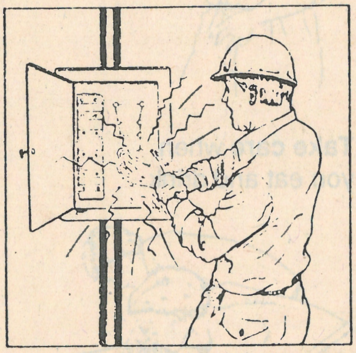
Recognizing the causes of breathing emergencies will help you to prevent them.

Find the cause of each breathing emergency in the list provided and write the correct number in the box.

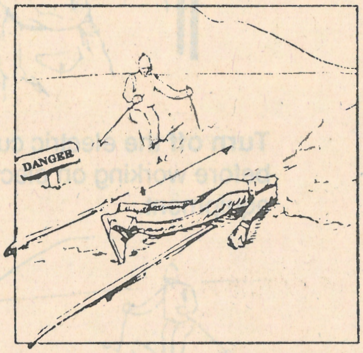
B. 5



A. 3



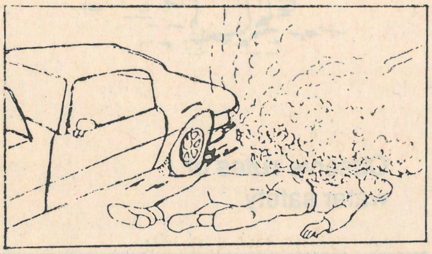
C. 2



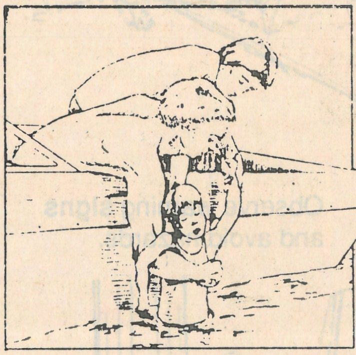
CAUSES

1. Drowning
2. Suffocation
3. Electrocution
4. Drug Overdose
5. Choking
6. Exposure to poisonous gases
7. Heart attack

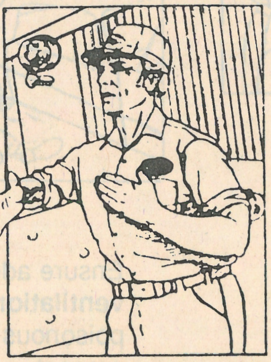
G. 6



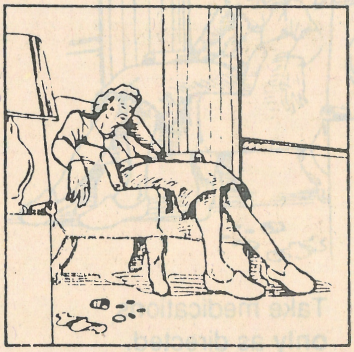
D. 1



F. 7



E. 4



2-6

A. 3 B. 5 C. 2 D. 1 E. 4 F. 7 G. 6

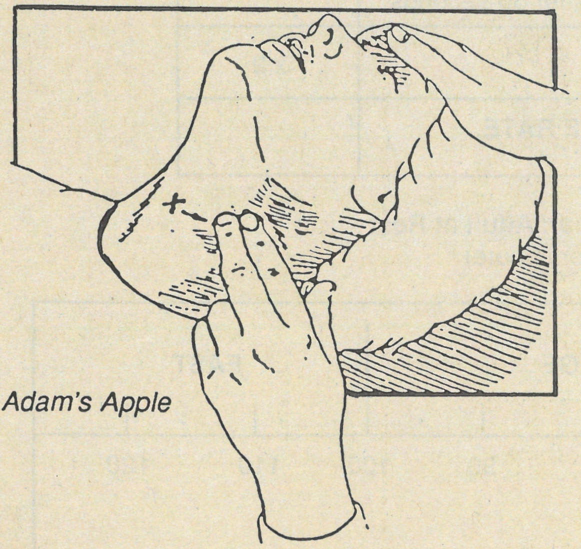
TAKING THE CAROTID PULSE

2-7

The **PULSE** is the pressure wave that is felt, with each beat of the heart, at different points of the body.

The **CAROTID PULSE** is felt in the arteries on either side of the Adam's Apple.

When giving artificial respiration -



x = Adam's Apple

- Check the **CAROTID** pulse
  - following the **INITIAL TWO BREATHS** of artificial respiration
  - **AFTER ONE MINUTE** and **EVERY FEW MINUTES** thereafter, until normal breathing begins again.

2-8

Which statements relating to artificial respiration are true **(T)** and which are false **(F)**?

A. ☐ T The pulsation of the heart can be felt by placing two fingers into the groove on one side of the neck or the other.

B. ☐ F Take the pulse at the casualty's wrist when giving artificial respiration.

C. ☐ T You should take the carotid pulse following the first two ventilations.

D. ☐ T The pulse should be reassessed after one minute and every following few minutes as long as artificial respiration is given.

2-8

A. T B. F C. T D. T

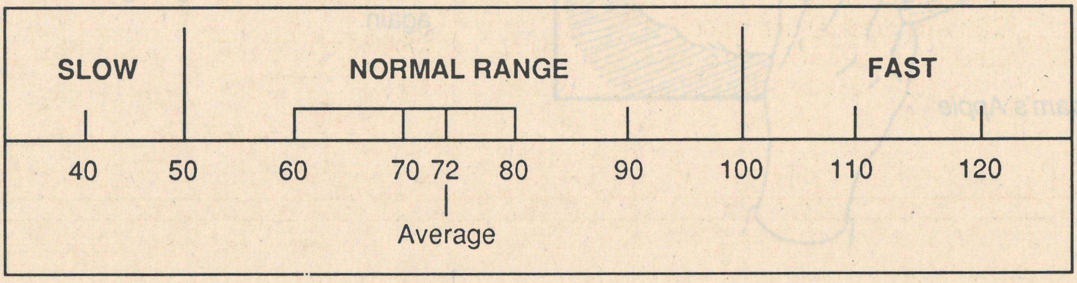
2-9

The **PULSE RATE** is the number of times the heart beats in one minute.

DETERMINE YOUR OWN PULSE RATE

1. Feel your carotid pulse.	
2. Count the number of beats for 30 seconds.	
3. Multiply by 2.	x 2
4. The result is **YOUR PULSE RATE.**	

Pulse Rates for an Adult at Rest
(beats per minute)


SLOW
NORMAL RANGE
FAST
40
50
60
70
72
80
90
100
110
120
Average

Does your pulse rate fall within the **NORMAL** range for an adult?

Yes ☐ **No** ☐

2-10

You are taking the carotid pulse of a resting adult casualty. The count for 30 seconds is 34 beats.

The pulse rate would be considered -

A. ☐ Very slow.

B. ☑ Within the normal range.

C. ☐ Very fast.

2-10

B. ✓

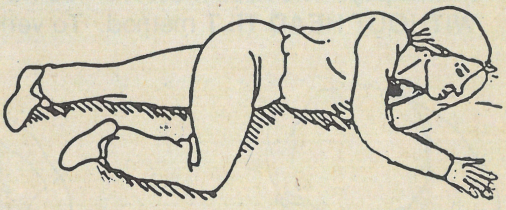
FOLLOW-UP CARE

2-11

Following artificial respiration, the casualty may gag or vomit.

This could **BLOCK** the airway.

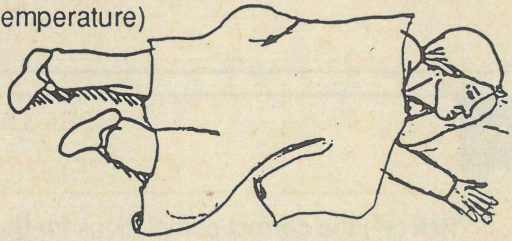
Place him in the **RECOVERY POSITION** to allow fluids to drain from the mouth and the airway to remain open.



A casualty in the recovery position must receive additional **FOLLOW-UP CARE.**

You should -

- **MONITOR** breathing closely and resume artificial respiration if necessary
- Keep the casualty **WARM** (at a comfortable temperature)
- **OBTAIN** medical assistance



2-12

Choose the correct completions for the following statement.

When a casualty's breathing has been restored following artificial respiration, you should -

A. ☐ F Ask the casualty if he needs medical assistance.

B. ☑ Position the casualty to maintain an open airway.

C. ☑ Watch the casualty until medical assistance is available.

D. ☑ Prevent the casualty from becoming cold.

E. ☑ Be prepared to ventilate if breathing stops.

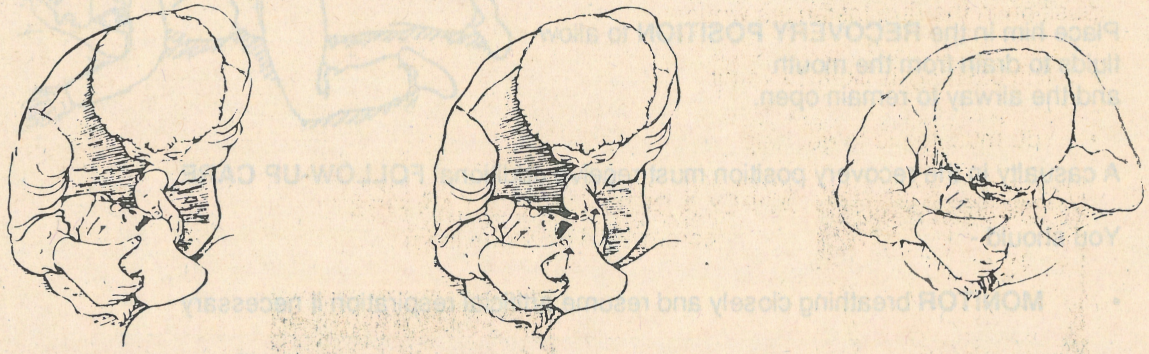
2-12

B. ☑ C. ☑ D. ☑ E. ☑

ARTIFICIAL RESPIRATION WITH SUSPECTED NECK INJURIES

2-13

Special care must be taken when giving artificial respiration to a casualty who may have a neck injury. The neck must **NOT** be moved. To open the airway, use the **JAW THRUST WITHOUT HEAD TILT** method. To ventilate, use your cheek to seal the casualty's nose.



2-14

Tick (✓) the correct completions for the following statement. When giving artificial respiration to a casualty with a neck injury -

A. The head must be -
1. ☐ Tilted backward.
2. ☐ Tilted forward.
3. ☑ Not tilted.

B. When ventilating -
1. ☐ The nostrils are sealed by the mouth.
2. ☑ The nostrils are sealed by the cheek.
3. ☐ The nostrils are sealed with the fingers.

C. Use your hands to -
1. ☐ Lift the neck and close the mouth.
2. ☑ Lift the jaw forward and open the mouth.
3. ☒ Press the jaw backward and open the mouth.

2-14

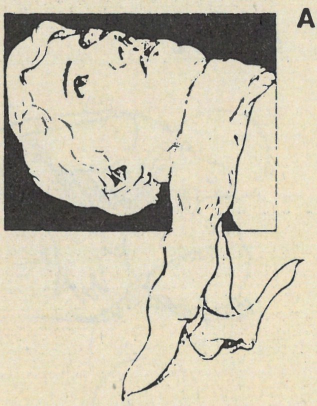
A. 3 **B.** 2 **C.** 2

2-15

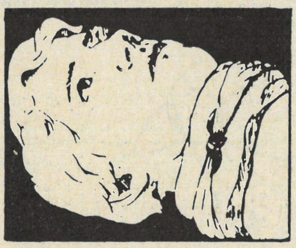
CAUTION!
ANY MOVEMENT OF THE NECK AREA COULD CAUSE FURTHER HARM

But it may be necessary to place a casualty with a suspected neck injury into the recovery position in the rare instances when -

- The casualty is likely to vomit
- You must leave to get help



APPLY A CERVICAL COLLAR FIRST
(commercial or improvised)



ANY MOVEMENT OF THE NECK AREA COULD CAUSE FURTHER HARM

2-16

Tick (✓) the correct completion.

A casualty with a neck injury has been revived by artificial respiration. He must be left alone while you get help.

You should -

A. ☐ Leave him on his back and turn his head to one side.

B. ☐ Roll him gently on his side and then support his cervical spine.

C. ☑ Put on a cervical collar and gently roll him into the recovery position.

D. ☐ Gently roll him onto his stomach and turn his head to one side.

2-16

C. ☑

REVIEW: MODULE 2

2-17

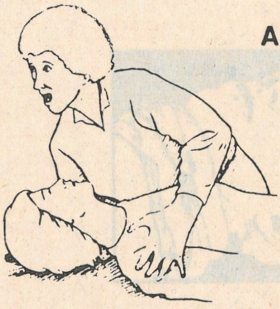
These questions are based on this workbook exercise, the practical session and the audio-visual. The diagrams below show some of the steps of mouth-to-mouth artificial respiration.

Tick (✔) the diagrams which best illustrate the correct techniques.

Choice 1 **Choice 2**

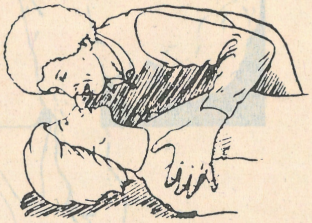
Assess Responsiveness

A. ☐



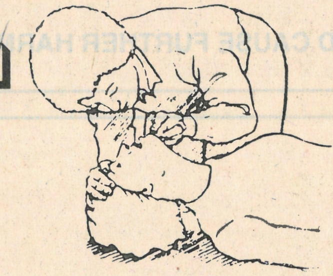
OR

A. ☑



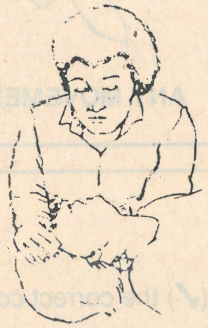
Open the Airway

B. ☑



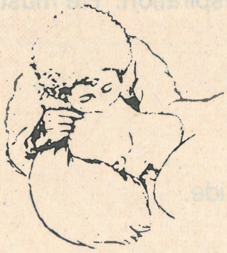
OR

B. ☐



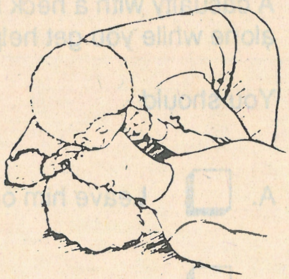
Ventilate the Lungs

C. ☐



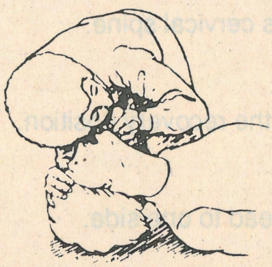
OR

C. ☑



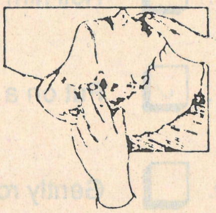
Assess the Carotid Pulse

D. ☐



OR

D. ☑



2-17

A. 2 **B.** 1 **C.** 2 **D.** 2

For more information on this topic refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapters 2, 3, 6, 8

END OF EXERCISE 2

NOTES

Exercise 3

CHOKING

You will have 9 minutes to complete this exercise (pages 3-1 to 3-10)

CAUSES AND PREVENTION OF CHOKING

3-1

CHOKING IS A BREATHING EMERGENCY that occurs when the airway becomes **PARTIALLY** or **COMPLETELY** blocked.

The common causes of airway obstruction are -

- **FOOD** or **SMALL OBJECTS** lodged in the throat
- The **TONGUE FALLING TO THE BACK OF THE THROAT** of an unconscious person

3-2

Choose the correct completion for the following statements.

When a casualty is choking -

	Choice 1			**Choice 2**
A. ☑	His air passage is clogged.	**OR**	A. ☐	His air passage is clear.
B. ☐	Air flows freely into and out of the lungs.	**OR**	B. ☑	Air flow to the lungs is impaired or stopped.
C. ☑	His life is in danger.	**OR**	C. ☐	His life is in no danger.

When a casualty is unconscious -

D. ☑	His tongue may block his air passage	**OR**	D. ☐	His air passage opens wider.

3-2

A. 1 **B.** 2 **C.** 1 **D.** 1

3-3

CHOKING MAY RESULT FROM -

- Swallowing large pieces of food
- Gulping drinks with food in your mouth
- Eating or drinking while doing something else
- Small objects in an infant's mouth

MOST CHOKING INCIDENTS CAN BE PREVENTED BY -

- Cutting food into small pieces and chewing it well
- Avoiding talking, laughing, drinking while chewing food
- Supervising children while they are eating
- Keeping small objects away from infants and young children

3-4

Listed below are dangerous situations that could result in choking.

Match each situation with the appropriate safety measure by placing the correct number into the squares provided.

		Situations		**Safety Measures**
A.	4	A ten-month-old child puts peanuts into his mouth.	1.	Avoid eating and drinking at the same time.
B.	3	A teenager pushes a hot dog into his mouth and eats it quickly.	2.	Avoid other activity when you are eating.
C.	1	A woman takes a gulp of coffee while she is chewing on a piece of meat.	3.	Cut food into small pieces and chew it well before you swallow.
D.	2	A man is eating a sandwich while he is driving his car.	4.	Keep small objects away from infants.

3-4

A. 4 **B.** 3 **C.** 1 **D.** 2

SIGNS OF CHOKING

3-5

Any or all of these signs may indicate that a person is choking.

PARTIAL AIRWAY OBSTRUCTION

SIGNS

You may observe:

- Forceful coughing and gagging
- Wheezing sound between coughs
- Redness or darkness in the face (congestion)
- The person can speak

} **GOOD AIR EXCHANGE**

- Weak, ineffective cough
- High-pitched noise when inhaling
- Increased breathing difficulty
- Blueness or greyish around the mouth and nose
- The person is unable to speak

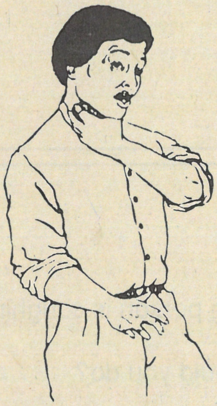
} **POOR AIR EXCHANGE**

COMPLETE AIRWAY OBSTRUCTION

SIGNS

You may observe:

- Breathing distress
- Clutching the throat
- Blueness or greyish in the face
- The person is unable to breathe, cough or speak



Universal Distress Sign of Choking

3-6

Which of these conditions would indicate that a person is choking?

A. ☐ He is pale and sweating.

B. ☑ He is coughing and is red in the face.

C. ☑ He cannot make any sounds and his face is turning bluish or greyish.

D. ☑ He is holding his throat in apparent panic.

3-6

B. ☑ C. ☑ D. ☑

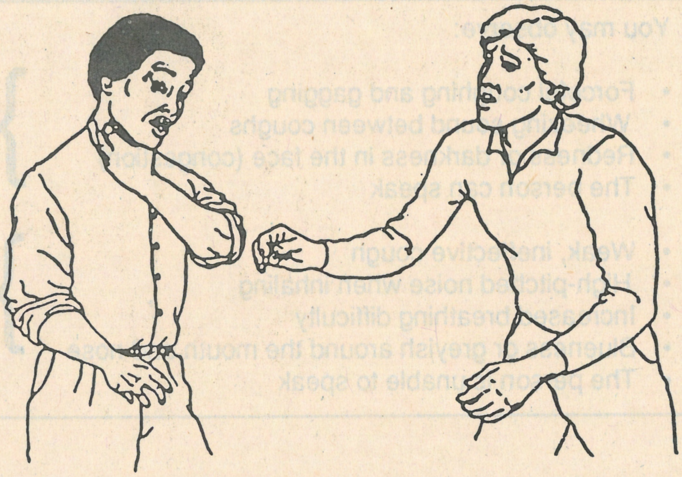
3-7

If the choking person has a **GOOD** air exchange, **CAN** breathe, cough or speak, the airway is only **PARTLY OBSTRUCTED**.

DO NOT INTERFERE with the person's attempts to clear his airway.

You should -

- Encourage **COUGHING**
- **STAND BY** ready to help



Stand by

3-8

A choking person is coughing and wheezing but he can still speak.

What should you do?

A. ☐ Call for help and immediately begin first aid for a completely blocked airway.

B. ☐ Place him at rest and leave at once to get medical assistance.

C. ☑ Stay with him and urge him to continue his efforts to remove the obstruction.

D. ☐ Calm the casualty and instruct him to lie on his back.

3-8

C. ☑

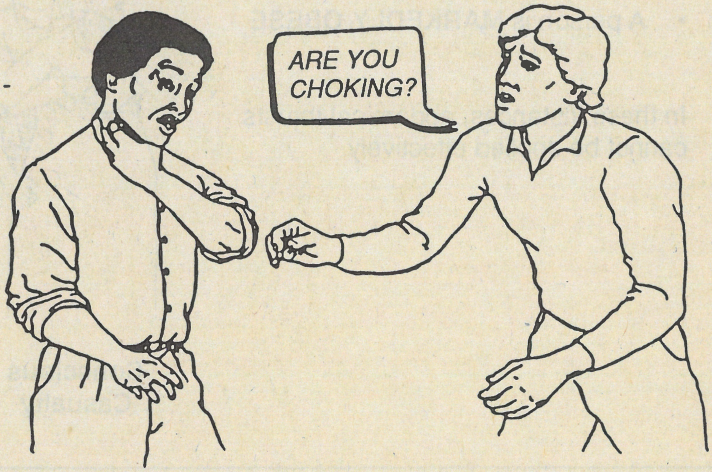
3-9

If the choking person is conscious and -

- Shows signs of **POOR AIR EXCHANGE**

or

- **CANNOT** breathe or cough
- **CANNOT** answer the question -


ARE YOU CHOKING?

GIVE FIRST AID FOR A COMPLETE AIRWAY OBSTRUCTION

YOU MUST ACT QUICKLY -

- Immediately give **ABDOMINAL THRUSTS** until successful or until the casualty becomes unconscious

3-10

When should you begin first aid for choking?

When the choking person -

A. ☐ Is coughing and gagging.

B. ☑ Has an ineffective cough and is starting to turn blue or grey in the face.

C. ☑ Is unable to speak and get air into and out of the lungs.

D. ☑ Has a completely clogged airway.

3-10

B. ☑ C. ☑ D. ☑

3-11

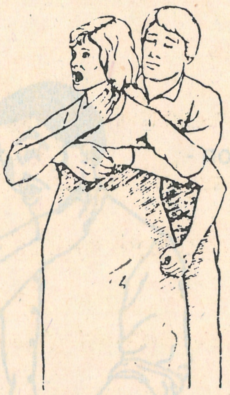
CHEST THRUSTS may have to be used instead of abdominal thrusts for choking when -

- A woman is in an **ADVANCED STAGE OF PREGNANCY**

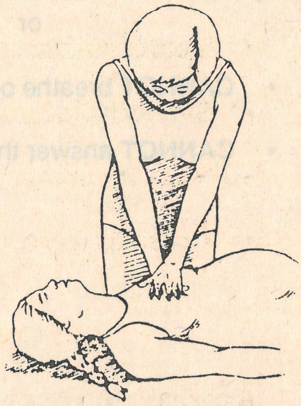
or

- A person is **MARKEDLY OBESE**

In these instances, abdominal thrusts cannot be applied effectively.



Conscious Casualty



Unconscious Casualty

3-12

For each of the following choking casualties, indicate whether it is advisable to use chest thrusts when giving first aid for choking.

Casualties	Yes	No
A. 40-year-old woman who is unconscious.	☐	☑
B. 25-year-old man who is extremely overweight.	☑	☐
C. 20-year-old man who is conscious.	☐	☑
D. 30-year-old woman in her last month of pregnancy.	☑	☐

3-12

A. No   B. Yes   C. No   D. Yes

3-13

FOLLOW-UP CARE

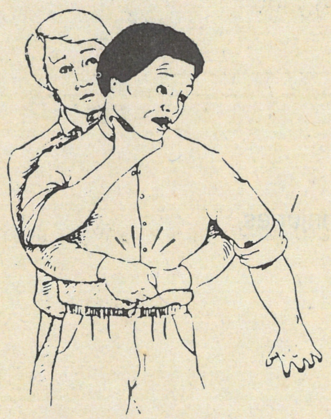
When a choking person's airway has been cleared, he may not breathe on his own and it may be necessary for you to give artificial respiration.

When normal breathing has resumed -

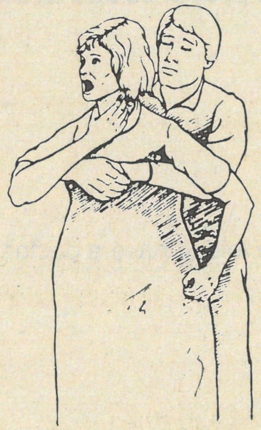
- Monitor breathing frequently
- Stay with the casualty to ensure that no further breathing difficulties develop
- Place the unconscious person in the recovery position and obtain medical assistance
- Advise the conscious person to seek medical assistance

CHOKING MANOEUVRES COULD CAUSE INTERNAL INJURIES

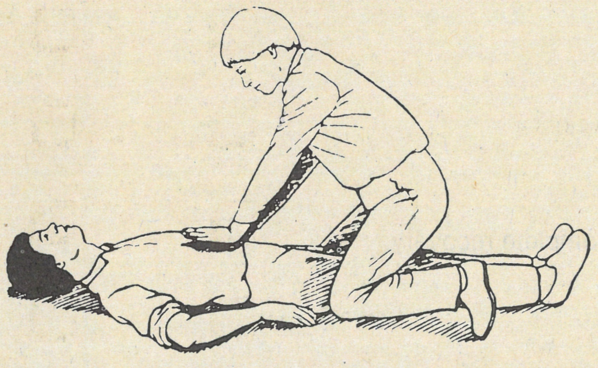
A casualty should be advised to get medical attention following -



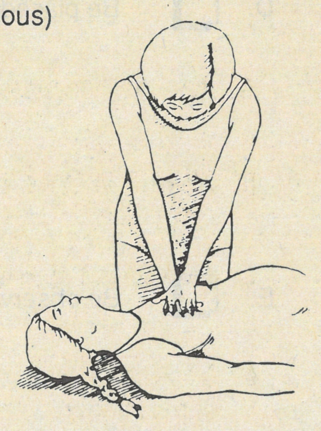
Abdominal Thrusts
(conscious)



Chest Thrusts
(conscious)



Abdominal Thrusts
(unconscious)



Chest Thrusts
(unconscious)

3-14

Choose the correct completions for the following statement.

When an airway obstruction has been removed by abdominal or chest thrusts and normal breathing has been restored, the casualty should -

A. ☐ Require no medical care.

B. ☑ Be positioned so that the airway will remain open.

C. ☑ Be told to have a doctor check him for injuries.

D. ☐ Be placed on his back in case he requires more chest thrusts.

E. ☑ Be observed closely to ensure complete recovery.

3-14

B. ✓ C. ✓ E. ✓

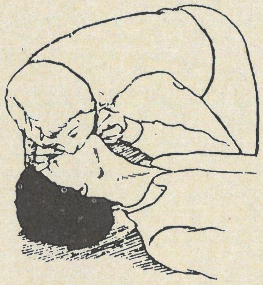
Review: Module 3

3-15

These questions are based on this workbook exercise, the practical session and the audio-visual.

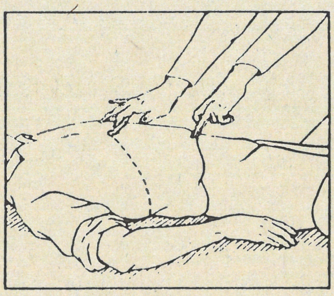
Number the following first aid steps in the correct order of performance by placing the appropriate number into the boxes provided.
When a choking adult casualty becomes unconscious and you have eased him to the floor, you should -

A. 3



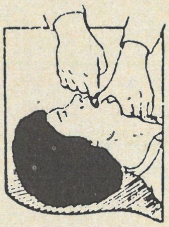
Attempt to Ventilate

B. 4 [illegible]



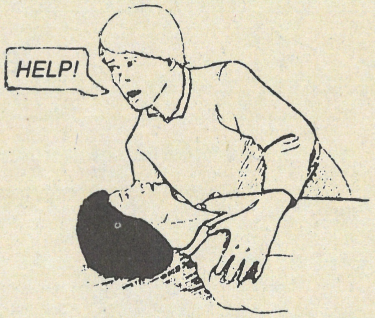
Landmark

C. 2



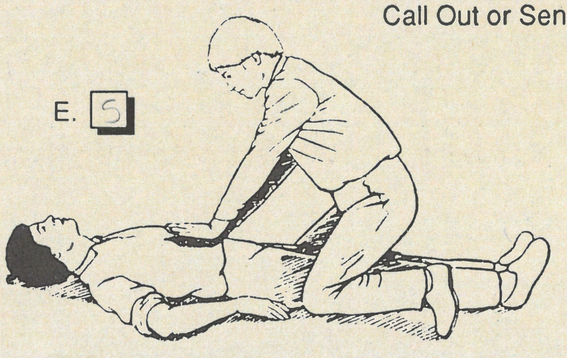
Fingersweep

D. 1



Call Out or Send for Help

E. 5



Give 6 to 10 Abdominal Thrusts

3-15

A. 3	B. 4	C. 2	D. 1	E 5

For more information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapter 4

END OF EXERCISE 3

P

F4

Exercise 4

WOUNDS AND BLEEDING

You will have 12 minutes to complete this exercise (pages 4-1 to 4-14)

EXTERNAL AND INTERNAL BLEEDING

4-1

A **WOUND** is any injury to the tissues of the body. It usually results in **BLEEDING.**

Bleeding may be -

- **EXTERNAL:** when blood escapes from a surface wound and **CAN BE SEEN**

OR

- **INTERNAL:** when blood escapes from tissues inside the body and **CANNOT BE SEEN IMMEDIATELY**

4-2

Mark each statement true (**T**) or false (**F**).

A. ☐ T Loss of blood usually occurs when there is a break in the skin.

B. ☐ F A deep cut on the finger is an example of a wound with only internal bleeding.

C. ☐ T Internal bleeding occurs when tissues inside the body are injured.

D. ☐ F A wound is any injury in which just the skin is punctured.

4-2

A. T **B.** F **C.** T **D.** F

4 -3

SIGNS AND SYMPTOMS OF SEVERE BLEEDING

The sign of **EXTERNAL BLEEDING** is the appearance of **BLOOD**.

BLOOD is not immediately visible with **INTERNAL BLEEDING**.

SEVERE EXTERNAL and **INTERNAL BLEEDING** may be recognized by some or all of the following -

SIGNS

You may observe:

- Anxiety
- Restlessness
- Paleness
- Cold, clammy skin
- Rapid, weak pulse
- Shallow breathing
- Gasping for air
- Yawning

SYMPTOMS

The casualty may complain of:

- Faintness
- Dizziness
- Nausea
- Thirst

Even SLIGHT BLEEDING may produce any of these signs and symptoms to some degree.

4 -4

Which of the following signs and symptoms may appear when bleeding is severe?

A casualty -

A. ☑ Feels light-headed and asks for a drink of water.

B. ☑ Is struggling to breathe and his skin is cool and moist to the touch.

C. ☒ Has a hot, flushed face and appears restless.

D. ☑ Complains that he is about to vomit.

4 -4

A. ☑ **B.** ☑ **D.** ☑

4-5

INTERNAL BLEEDING may be difficult to recognize.

A CASUALTY COULD BLEED TO DEATH WITHOUT ANY BLOOD BEING SEEN

Suspect internal bleeding when -

- A casualty has received **SHARP BLOWS, DEEP PUNCTURE WOUNDS** or **CRUSH INJURIES**
- Signs and symptoms of **SEVERE BLEEDING** appear but **BLOOD IS NOT SEEN**
- You observe one or more of the following -

SIGNS

- Bleeding from mouth, ears, nose
- Bright red, frothy blood coughed up
- Blood in the vomitus
- Cyanosis (blue or greyish lips, ears and fingers)

SIGNS AND SYMPTOMS MAY NOT APPEAR IMMEDIATELY

4-6

Mark each statement true (**T**) or false (**F**).

A. ☐ F A casualty who is bleeding inside the body is in little danger.

B. ☐ T Internal bleeding may result when a person has been punched in the abdomen.

C. ☐ F Blood is seen instantly when a casualty is bleeding internally.

D. ☐ T The oozing of blood from the nostrils may indicate that a casualty is bleeding internally.

E. ☐ T When a casualty is throwing up blood, internal bleeding should be suspected.

4-6 A. F B. T C. F D. T E. T

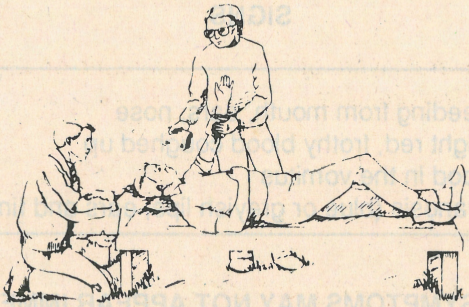
4-7

FIRST AID FOR SEVERE EXTERNAL BLEEDING

SEVERE BLEEDING IS AN IMMEDIATE THREAT TO LIFE.
YOU MUST ACT QUICKLY!

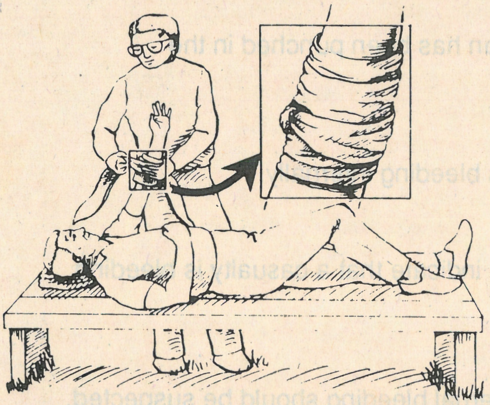
To control severe external bleeding, you should -

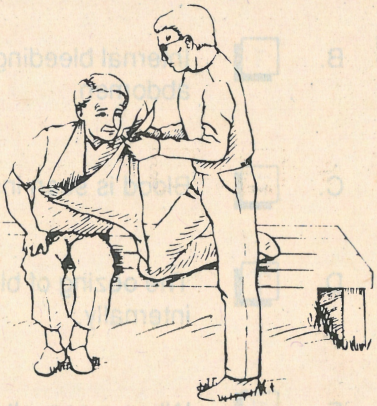
- Apply **DIRECT PRESSURE** on the wound with your bare hand or over a pad of dressings, if available
- **ELEVATE** an injured limb to help slow down the bleeding
- Place the casualty **AT REST**
- **DO NOT REMOVE** blood-soaked dressings; apply another pad of dressings over them



When bleeding is controlled -

- **BANDAGE** the dressings in place to maintain pressure on the wound
- **IMMOBILIZE** the injured part in an elevated position, if injures permit
- Obtain **MEDICAL ASSISTANCE**





4-8

Your co-worker has cut his forearm with a sharp knife and blood is flowing freely from the wound.

Which of the following actions should you take to control the bleeding?

	Yes	No	
A.	☑	☐	Tell him to press tighly on the wound, raise his arm and lay him down, then go for suitable first aid supplies.
B.	☑	☐	Place several layers of clean cotton fabric on the wound and maintain the pressure.
C.	☐	☒	Replace wet dressings with dry ones.
D.	☑	☐	Use a broad bandage to secure the dressings on the wound when bleeding has slowed down.
E.	☑	☐	Support the bandaged arm in a sling.

4-8 A. Yes B. Yes C. No D. Yes E. Yes

FIRST AID FOR INTERNAL BLEEDING

4-9

There is little a First Aider can do to control internal bleeding.

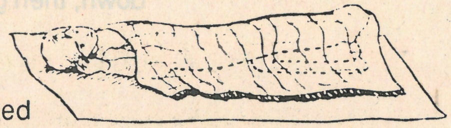
WHEN YOU SUSPECT INTERNAL BLEEDING, GET MEDICAL ASSISTANCE IMMEDIATELY

The **AIM** of first aid is to -

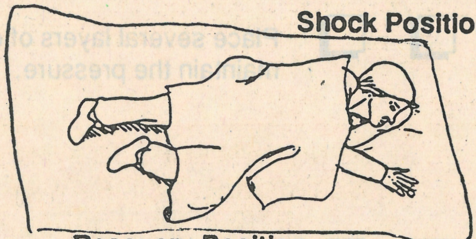
- **PREVENT** shock from worsening and
- **MAINTAIN** the casualty in the best possible condition until medical assistance arrives.

Do the following -

- Place the **conscious** casualty at rest with feet elevated 15 to 30 cm, if injuries permit
- Place the **unconscious** casualty into the **recovery position**
- Loosen tight clothing
- **Reassure** the conscious casualty
- Give **nothing by mouth**
- Keep the casualty **warm**



Shock Position



Recovery Position

4-10

You suspect that a conscious casualty is bleeding internally.

Which of the following should you do?

A. ☒ Give the casualty sips of hot tea.

B. ☑ Cover the casualty with a jacket to keep body heat in.

C. ☑ Undo the casualty's shirt collar and belt.

D. ☒ Tell the casualty he is bleeding inside.

E. ☑ Talk to the casualty and tell him that help is on the way.

F. ☑ Obtain medical help quickly.

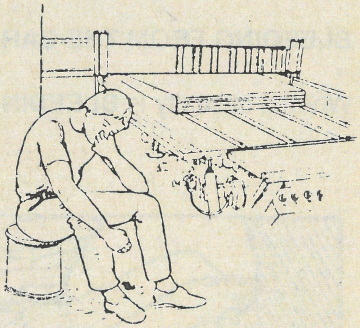
G. ☑ If the casualty's condition allows, raise the legs and feet by placing them on a folded coat.

4-10

B. ☑ C. ☑ E. ☑ F. ☑ G. ☑

BLEEDING FROM THE NOSE, EAR, AND SCALP

4-11



A **NOSEBLEED** may occur spontaneously or be caused by -

- Blowing the nose
- Injury to the nose or skull

To control a nosebleed, you should -

- Place the casualty in a **SITTING POSITION**, with the **HEAD SLIGHTLY FORWARD**
- Instruct the casualty to **PINCH HIS NOSTRILS** firmly with thumb and forefinger for about **10 MINUTES** or until bleeding stops (not applicable in the case of a fractured skull)
- **LOOSEN TIGHT CLOTHING** around the casualty's neck and chest
- Get medical assistance if bleeding **DOES NOT STOP** or if bleeding recurs
- When bleeding stops, instruct the casualty **NOT** to blow or pick his nose for several hours

DO NOT ATTEMPT TO STOP A NOSEBLEED RESULTING FROM A HEAD INJURY. WIPE AWAY THE EXTERNAL TRICKLING BLOOD AND SEEK MEDICAL ASSISTANCE IMMEDIATELY

4-12

From the following choices, tick (✓) the appropriate first aid procedures for controlling a nosebleed.

		Choice 1				**Choice 2**
A.	☐	See a doctor before you start with first aid.	**OR**	A.	☑	See a doctor if first aid doesn't halt the bleeding.
B.	☑	Sit the person down and lean him forward slightly.	**OR**	B.	☐	Sit the person down and tilt his head back.
C.	☑	Ask the person to press on the soft parts of his nose until there is no blood flow.	**OR**	C.	☐	Ask the person to press on the soft parts of his nose for 1 to 2 minutes.

4-12

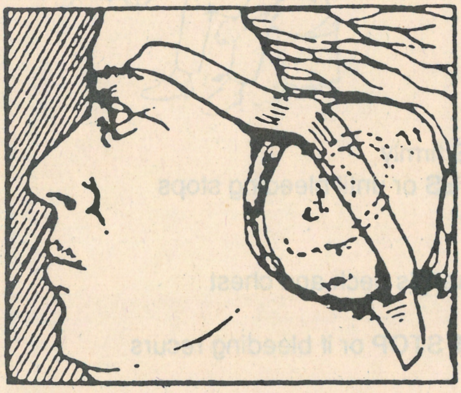
A. 2 **B.** 1 **C.** 1

4

4-13

BLEEDING FROM THE EAR may indicate a serious injury.

When a casualty is **BLEEDING FROM THE EAR**, you should -



- **SECURE** a sterile dressing **LOOSELY** over the ear. **DO NOT** put anything into the ear
- **LAY** the casualty down carefully with his head supported in a slightly **RAISED** position, **TURNED TO THE INJURED SIDE.** (If the casualty is unconscious and has no suspected neck injuries place him in the recovery position with the injured side down).
- **ENSURE** adequate breathing
- **OBTAIN** medical assistance

4-14

Tick (✓) the correct choice in giving first aid when blood is oozing from a conscious casualty's left ear.

		Choice 1				**Choice 2**
A.	☐	Help the casualty to lie down.	OR	A.	☐	Help the casualty to sit down.
B.	☐	Pack the ear with sterile cotton wool.	OR	B.	☐	Tape a gauze dressing lightly over the ear.
C.	☐	Incline the casualty's head to the left side and support it.	OR	C.	☐	Incline the casualty's head to the right side and support it.
D.	☐	Advise the casualty to go to the nearest hospital.	OR	D.	☐	Get medical help for the casualty.

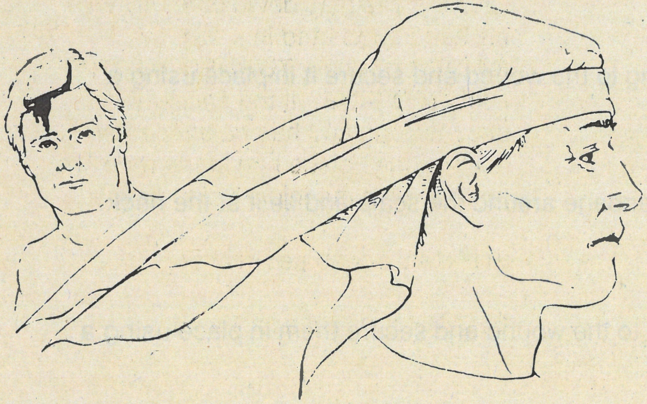
4 -14

A. 1 **B.** 2 **C.** 1 **D.** 2

4-15

To control **BLEEDING FROM A SUPERFICIAL SCALP WOUND** you should -

- Clean away loose dirt **WITHOUT PROBING** into the wound
- Apply thick, sterile (clean) dressings to **EXTEND WELL BEYOND** the edges of the wound
- **BANDAGE** the dressings firmly in place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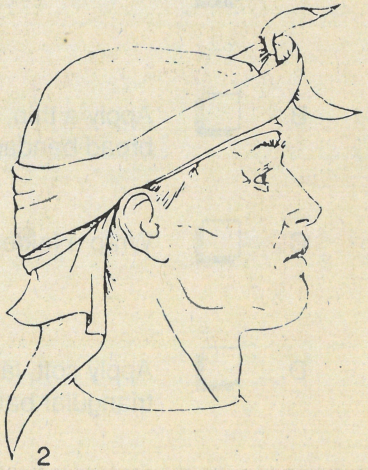
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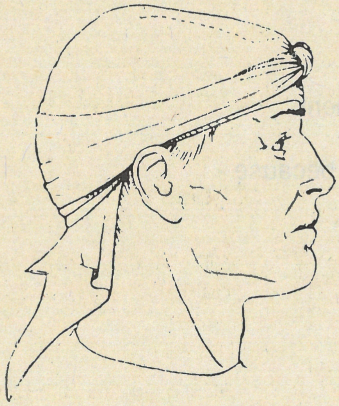
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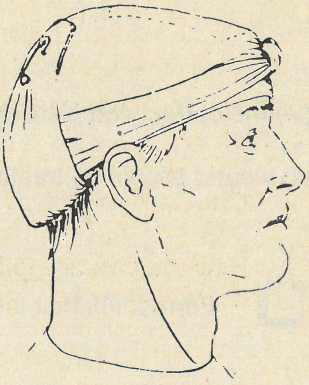

4

Any scalp wound could indicate a serious head injury that may cause unconsciousness and breathing problems.

Therefore, you should -

- **ENSURE** adequate breathing
- **OBTAIN** medical assistance

4-16

A casualty is bleeding severely from a scalp wound.

Before getting the casualty to medical assistance, what method should you use to control the bleeding?

A. ☐ Cover the wound with an adhesive dressing and secure it loosely in place.

B. ☐ Apply a thin, sterile dressing to the wound and secure it in place using a broad bandage.

C. ☐ Wrap a folded triangular bandage around the scalp and tie it at the neck.

D. ☐ Apply soft, large dressings to the wound and secure them in place using a triangular bandage.

4-17

Tick (✓) the correct completions for the following statement.

A scalp wound should be treated as a serious condition because -

A. ☐ Permanent hair loss and scars may result.

B. ☐ A respiratory emergency may develop.

C. ☐ There may be severe damage to the lungs.

D. ☐ There may be severe injuries to the skull.

4-16 **D.** ☑

4-17 **B.** ☑ **D.** ☑

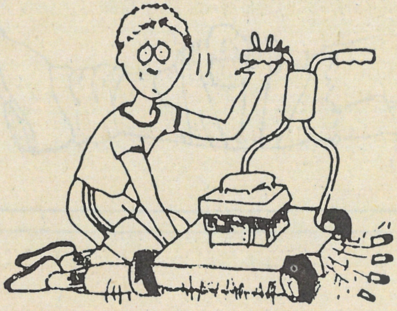
4-18

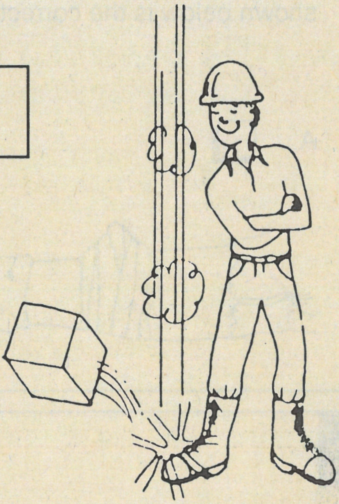
WOUNDS usually result from poor safety practices at work, at home and during leisure activities.

EXAMPLES of **GOOD SAFETY PRACTICES** are to:

- Use safety equipment whenever you operate machinery and tools
- Be as safety conscious at home as you are at work
- Caution children to be aware of the dangers with broken glass and sharp objects

**GOOD SAFETY PRACTICES
HELP PREVENT WOUNDS**





4-19

Tick (✓) the correct statements below.

A. ☐ You can avoid bad injuries by wearing personal safety gear when using a chain saw.

B. ☐ The majority of accidental injuies occur when we are distracted and not concentrating on the work we do.

C. ☐ Walking barefoot on a picnic ground is a safe exercise.

D. ☐ You should train yourself to become aware of potential hazards in your environment.

E. ☐ Parents of young toddlers should ensure an accident-proof home.

4-19

A. ☑ B. ☑ D. ☑ E. ☑

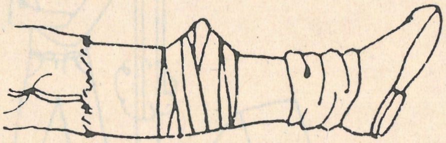
REVIEW : MODULE 4

4-20

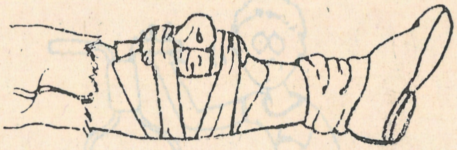
These questions are based on this workbook exercise, the practical session and the audio-visual.

There is a short embedded object in the wound of this leg. Which bandaging technique shown below is the correct one?

A. ☐



B. ☐



4-21

Mark each statement true (T) or false (F).

A. ☑ A triangular bandage can be used as a sling or folded and used as a broad or narrow bandage.

B. ☒ Blood-soaked dressings should be removed and replaced with clean, dry dressings.

C. ☑ Cold fingers may indicate that a bandage on the injured arm is too tight.

D. ☑ The blood trickling from the nose following a head injury should be gently absorbed with dressings.

E. ☒ To control bleeding from an ear, pack the ear with cotton.

F. ☑ Cold, clammy skin and a rapid, weak pulse are signs of severe bleeding.

G. ☑ A conscious casualty with suspected internal bleeding should be kept at rest with feet elevated and receive immediate medical assistance.

4-20 B. ✓

4-21 A. T B. F C. T D. T E. F F. T G. T

For more information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapters 5, 8

END OF EXERCISE 4

NOTES

Exercise 5 SHOCK, UNCONSCIOUSNESS AND FAINTING

You will have 12 minutes to complete this exercise (pages 5-1 to 5-14)

SHOCK

5-1

SHOCK occurs when there is inadequate circulation to the body tissues.

SHOCK may develop **IMMEDIATELY** following an incident or much **LATER**.

SHOCK may result from -

- Bleeding (external and internal)
- Breathing problems
- Burns
- Serious fractures
- Heart attack
- Spinal cord or nerve injuries
- Pain

Some degree of shock is present with any injury or illness.

GIVE THE APPROPRIATE FIRST AID QUICKLY TO PREVENT SHOCK FROM BECOMING MORE SEVERE

A person **CAN DIE** from shock even though the injury causing shock might **NOT** by itself be fatal.

5-2

Mark each statement true **(T)** or false **(F)**.

A. T Shock occurs when parts of the body do not receive enough blood.

B. T Shock is often caused by blood loss from a wound.

C. F First aid should be started only when marked signs of shock appear.

D. T Shock is a serious condition.

E. F Shock is caused only by life-threatening injuries.

5-2

A. T B. T C. F D. T E. F

5-3

SIGNS AND SYMPTOMS OF SHOCK

The **SIGNS** and **SYMPTOMS** of shock may **NOT** appear immediately but many or all of the following may appear as shock progresses.

SIGNS

You may observe:

- Restlessness and anxiety
- Cold, sweaty and pale skin, becoming bluish-grey at the lips and fingertips
- Weak and rapid pulse
- Shallow, rapid breathing
- Gasping for air (in later stages of shock)
- Vomiting
- Changes in the level of consciousness

SYMPTOMS

The casualty may complain of:

- Faintness
- Thirst
- Nausea

When you recognize any of these signs and symptoms, **OBTAIN MEDICAL ASSISTANCE IMMEDIATELY**.

5-4

Choose the correct completions for the following statement.

When a casualty is in shock, usually the -

		Choice 1			Choice 2
A. Skin is	☑	whitish.	OR	☐	flushed.
B. Skin is	☐	dry.	OR	☑	moist.
C. Skin is	☐	warm.	OR	☑	cold.
D. Breathing is	☑	fast.	OR	☐	slow.
E. Pulse is	☑	fast.	OR	☐	slow.
F. Casualty feels	☐	calm.	OR	☑	uneasy.
G. Casualty feels	☐	hungry.	OR	☑	thirsty.

5-4

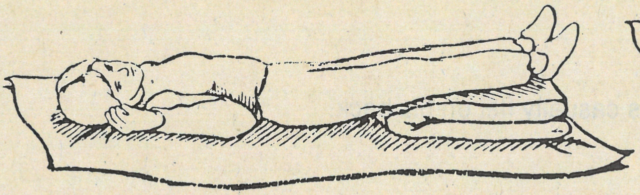
A.	B.	C.	D.	E.	F.	G.
1	2	2	1	1	2	2

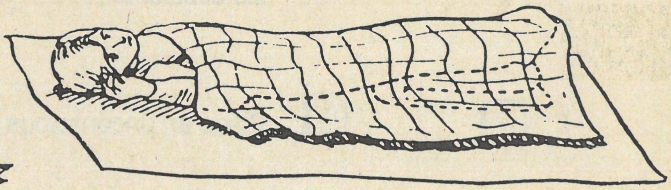
FIRST AID FOR SHOCK

To prevent shock from becoming more severe -

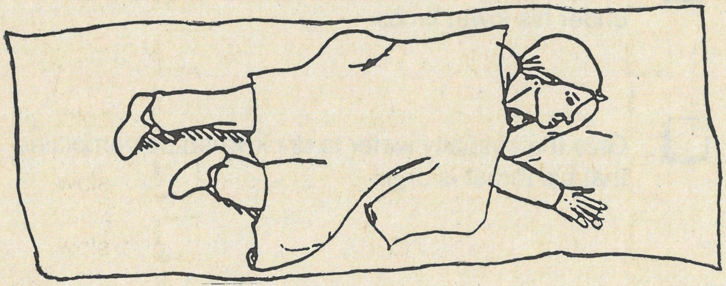
GIVE PROMPT AND EFFECTIVE FIRST AID

- **ATTEND TO** the cause or causes of shock (e.g. injuries, illnesses)
- **REASSURE** the casualty
- Handle the casualty **GENTLY**
- **LOOSEN** tight clothing
- Give **NOTHING BY MOUTH** if shock is severe
- Moisten lips only if casualty complains of thirst
- Keep the casualty **COMFORTABLE** but **DO NOT** overheat
- Position the **CONSCIOUS** casualty **LYING DOWN** with feet and legs **ELEVATED** 15-30 cm, the **SHOCK POSITION**, if injuries permit





- Place the **UNCONSCIOUS** casualty in the **RECOVERY POSITION**, if injuries permit



OBTAIN MEDICAL ASSISTANCE AS QUICKLY AS POSSIBLE

5-6

A casualty is showing signs and symptoms of severe shock. Which of the following should you do to prevent his condition from worsening?

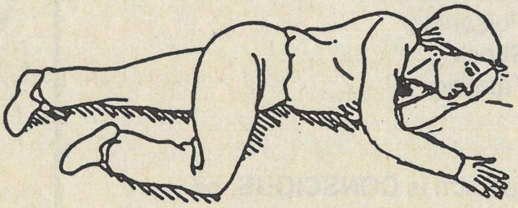
	Yes	No	
A.	☑	☐	Place blankets over and under the casualty to retain body heat.
B.	☑	☐	Give first aid for any obvious injury or illness.
C.	☑	☐	Avoid causing the casualty more discomfort.
D.	☐	☒	Rub the conscious casualty's limbs vigorously to improve his circulation.
E.	☐	☒	Place an unconscious casualty flat on his back.
F.	☑	☐	Position a conscious casualty on his back and place a support under his lower limbs.
G.	☐	☒	Give the casualty water to drink when he complains that his throat is dry.
H.	☑	☐	Undo his collar and belt.

5-6

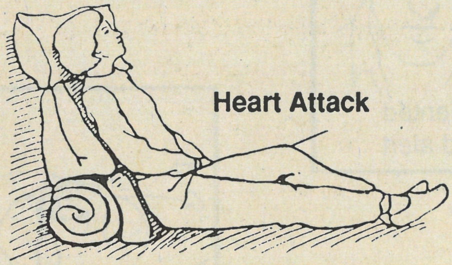
A. Yes B. Yes C. Yes D. No E. No F. Yes G. No H. Yes

5-7

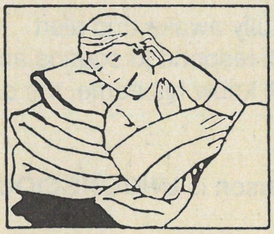
When a **CONSCIOUS** casualty is showing signs of shock, the following positions are preferred for certain conditions or injuries:



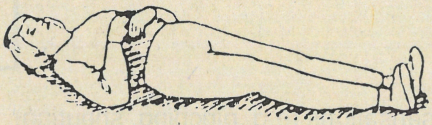
Nausea or Vomiting



Heart Attack



Chest Injury



Pelvic Injury

5-8

Match each condition or injury with the position of choice for a conscious casualty by placing the appropriate number in the boxes provided.

	Condition or Injury	**Position of Choice**
A. ☐ 3	Chest injury	1. Recovery position
B. ☐ 1	Vomiting	2. Shock position
C. ☐ 3	Heart attack	3. Semisitting
D. ☐ ~~2~~ 1	Nausea	4. Flat on the back
E. ☐ 4	Pelvic Injury	

5-8

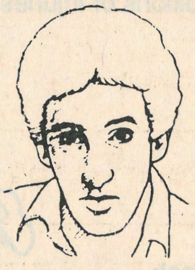
A. 3 **B.** 1 **C.** 3 **D.** 1 **E.** 4

UNCONSCIOUSNESS

5-9

Many injuries and illnesses are complicated by the **LOSS OF CONSCIOUSNESS**, e.g. -

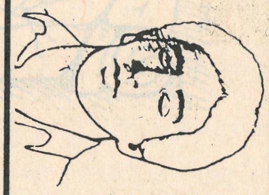
- Head injuries
- Respiratory emergencies
- Heart attack
- Poisoning
- Shock
- Fainting



Oriented and alert

When a person is **CONSCIOUS**, he -

- Is fully awake and alert
- Will respond to sounds and sensations
- Will know his name, the day, place, etc.



No response

When a person is **UNCONSCIOUS**, he -

- Is unable to speak
- Is not aware of his surroundings
- Will not respond to sounds and sensations (e.g. pinching, shouting)

5-10

Mark each statement true **(T)** or false **(F)**.

A. ☑ If a conscious person is fully awake, he reacts to speech or pain and is aware of his surroundings.

B. ☑ A person may become unconscious following a sharp blow to the skull.

C. ☒ An unconscious person will try to move his hand if the fingers are squeezed.

D. ☑ A person may become unconscious as a result of an accident or sickness.

E. ☒ An unconscious person will answer faintly when spoken to.

5-10

A. T **B.** T **C.** F **D.** T **E.** F

FIRST AID FOR AN UNCONSCIOUS CASUALTY

5-11

When an **UNCONSCIOUS** person is lying on his back, the airway may become **BLOCKED** if -

- The **TONGUE** falls to the back of the throat

or

- **FLUIDS** drain into the airway

YOUR FIRST PRIORITY IS TO PREVENT A BREATHING EMERGENCY

5-12

Which of the following conditions would endanger an unconscious casualty when he is lying face-up?

A. ☑ The throat is clogged with vomit.

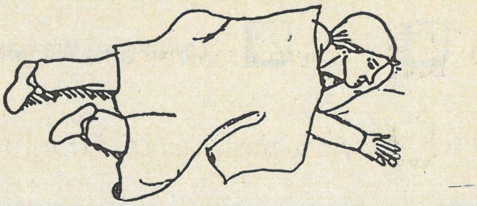
B. ☑ The mouth is filled with blood.

C. ☑ The throat is obstructed by the tongue.

5-13

When caring for an **UNCONSCIOUS** casualty, you should perform the following order of actions -

- **ENSURE ADEQUATE BREATHING** (If necessary, open the airway and give artificial respiration.)
- **DO A SECONDARY EXAMINATION** (vital signs, head-to-toe examination, Medic-Alert information)
- **GIVE FIRST AID** for injuries and conditions found
- **LOOSEN** tight clothing
- Place the casualty in the **RECOVERY POSITION**, if injuries permit
- Keep the casualty **WARM**
- Give **NOTHING** by mouth
- Obtain **MEDICAL ASSISTANCE**



5-12

A. ☑ B. ☑ C. ☑

5-14

An unconscious casualty is bleeding from a leg wound. There is no indication of neck injury.

Which of the following actions should you perform?

	Yes	No	
A.	☑	☐	Check that the casualty is breathing.
B.	☑	☐	Control bleeding with pressure, elevation and rest.
C.	☑	☐	Check the casualty thoroughly for other injuries.
D.	☑	☐	Open the buttons on the casualty's clothes at the neck and waist.
E.	☐	☒	Keep the casualty flat on his back.
F.	☑	☐	Cover the casualty with a blanket.
G.	☑	☐	Send someone to telephone for an ambulance.
H.	☐	☒	Try to give the casualty sips of water.

5-14

A. Yes B. Yes C. Yes D. Yes E. No F. Yes G. Yes H. No

FAINTING

5-15

FAINTING is temporary unconsciousness, caused by a shortage of oxygen to the **BRAIN**. Recovery usually takes place within minutes.

FAINTING may be caused by -

- Fear or anxiety
- Severe pain, injury or illness
- Fatigue, hunger or lack of fresh air
- Long periods of standing or sitting

The following signs and symptoms may warn you that a person is **ABOUT TO FAINT**.

SIGNS	**SYMPTOMS**
You may observe: • Paleness • Sweating	The casualty may complain of: • Feeling unsteady • Feeling dizzy

5-16

Mark each statement true **(T)** or false **(F)**.

A. ☒ Fainting results from a lack of blood flow to the limbs.

B. ☑ When a person faints, he loses consciousness for a short time.

C. ☑ A person may faint when he is scared suddenly or when he is sick or hurt.

D. ☑ A person in a hot, stuffy room may say that he feels dizzy just before he faints.

E. ☒ When a person's face becomes flushed and dry, he may be in danger of fainting.

F. ☑ Exhaustion and lack of food may cause fainting.

G. ☑ Soldiers standing at attention for an extended time pass out frequently.

5-16

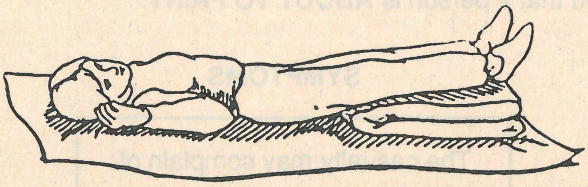
A.	B.	C.	D.	E.	F.	G.
F	T	T	T	F	T	T

5-17

When a person **FEELS FAINT**, you may be able to prevent him from fainting.

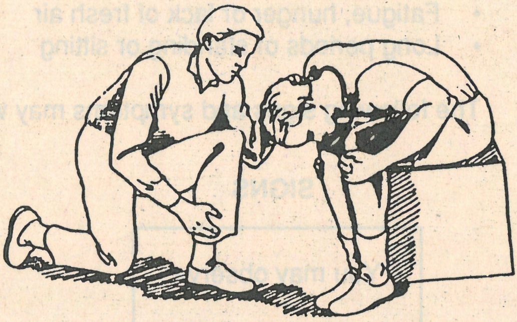
You should -

- Ensure a supply of fresh air
- Loosen tight clothing, especially at the neck
- Place him in either of the following positions



Lying with feet and legs raised 15-30 cm , shock position

OR



Sitting with head and shoulders lowered

5-18

When a person turns pale and says that he feels unsteady, what should you do?

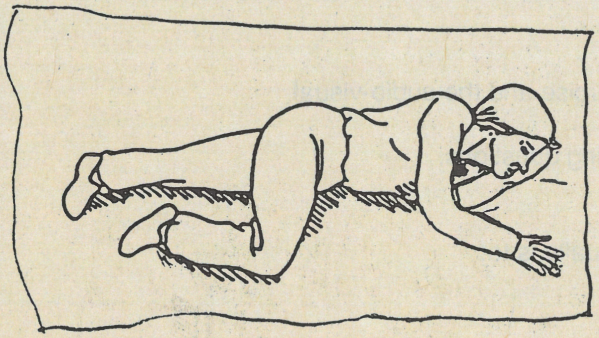
	Yes	No	
A.	☑	☐	Open the window.
B.	☐	☒	Tilt his head back and place a cold towel on his forehead.
C.	☑	☐	Seat him and bend his upper body forward to his knees.
D.	☑	☐	Unbutton his shirt at the collar.
E.	☑	☐	Position him at rest on his back and place a support under his lower limbs.

5-18

A. Yes **B.** No **C.** Yes **D.** Yes **E.** Yes

5-19

When a person **HAS FAINTED**, you should -



- **ENSURE** adequate breathing
- **LOOSEN** tight clothing at neck, chest and waist
- **PLACE** him in the recovery position
- **ENSURE** a supply of fresh air

When he returns to consciousness, make him comfortable and keep him **LYING DOWN** for 10-15 minutes.

Obtain medical assistance if the person does **NOT** recover quickly and completely.

5-20

A person in a hot stuffy room passes out and slumps to the floor. What should you do?

	Choice 1			**Choice 2**
A. ☐	Check to see if he is bleeding.	**OR**	A. ☑	Check to see if he is breathing.
B. ☑	Open the windows to ventilate the room.	**OR**	B. ☐	Carry him outside to refresh him.
C. ☑	Unbutton his collar.	**OR**	C. ☐	Remove his clothing.
D. ☐	Position him on his back.	**OR**	D. ☑	Place him in the recovery position.
E. ☐	Have him walk around as soon as he becomes conscious.	**OR**	E. ☑	Keep him at rest for a short time when he becomes conscious.
F. ☑	Call for medical help if he does not regain consciousness soon.	**OR**	F. ☐	Call for medical help as soon as he has fainted.

5-20

A. 2 **B.** 1 **C.** 1 **D.** 2 **E.** 2 **F.** 1

REVIEW: MODULE 5

5-21

These questions are based on this workbook exercise and the audio-visual.

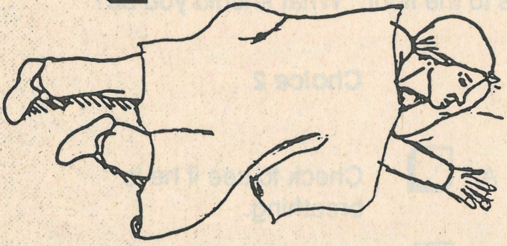
Tick (✓) the correct answer for each of the following questions.

A. The priority of first aid for an unconscious casualty is to:

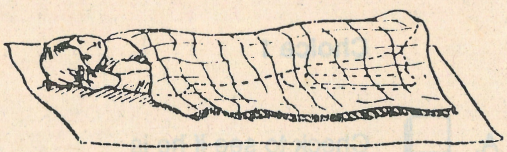
1. 2 ☐ Check the carotid pulse.
2. 3 ☐ 2 Control severe bleeding.
3. 4 ☐ Check for injuries.
4. 1 ☑ Ensure an open airway.

B. A conscious casualty in shock without breathing difficulties should be placed in which of the following positions?

1. ☐

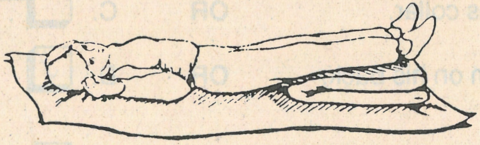


2. ☑

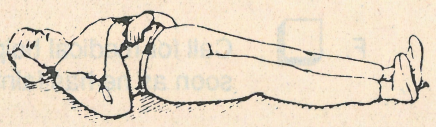


C. Which of the following is the best position for a person who has fainted and is still unconscious?

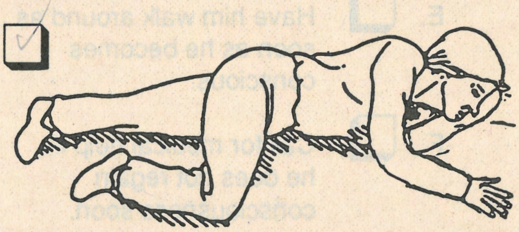
1. ☐



2. ☐



3. ☑



5-21

A. 4 B. 2 C. 3

For more information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapters 6, 7

END OF EXERCISE 5

NOTES

Exercise 6 FRACTURES

You will have 7 minutes to complete this exercise (pages 6-1 to 6-8)

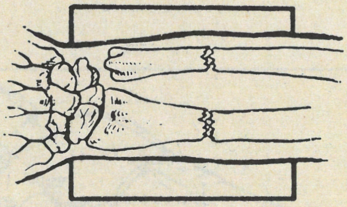
INTRODUCTION TO FRACTURES

6-1

A **FRACTURE** is any break or crack in a bone.

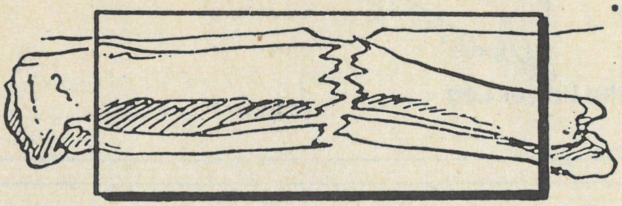
A fracture may be **CLOSED** or **OPEN.**

Closed Fracture



- The **SKIN** in the area of the fracture **IS NOT BROKEN**

Open Fracture



- The **SKIN** in the area of the fracture **IS BROKEN**

6-2

Indicate with a **(C)** or an **(O)** which of the fractures described below would be closed or open.

A. O A fractured rib caused by a gunshot wound.

B. C A cracked bone over which the skin is bruised and swollen.

C. C A broken toe which is painful but not bleeding.

D. O A fractured bone over which bleeding is seen.

6-2

A. O **B.** C **C.** C **D.** O

6-3

SIGNS AND SYMPTOMS OF FRACTURES

Suspect a fracture if one or more of the following signs and symptoms are present -

SIGNS

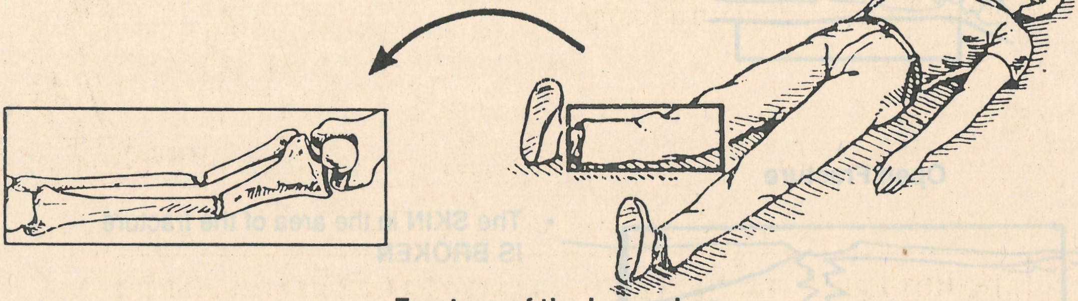
You may observe:

- Swelling and discolouration
- Deformity
- Protruding bone ends (bleeding)
- Unnatural movement
- Inability to move
- Shock, increasing with severity of injury

SYMPTOMS

The casualty may complain of:

- Pain, made worse by movement
- Tenderness on touching
- Grating sensation or sound when bone ends rub together



Fracture of the Lower Leg

Which of the following could indicate that a leg injury is a fracture?

A. ☒ A deep wound on the lower leg is gaping and bleeding profusely.

B. ☑ The end of a bone is sticking through the skin. There is a moderate amount of bleeding.

C. ☑ The casualty is pale and sweating, his skin feels cold, he says he may vomit and his lower leg is lying at right angles to the thigh.

D. ☑ The casualty screams when you touch his leg and he says he cannot move the injured part.

6-4

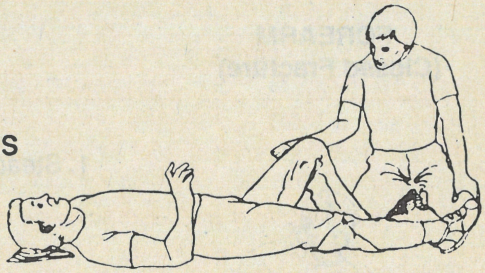
B. ✓ C. ✓ D. ✓

FIRST AID FOR FRACTURES

6-5

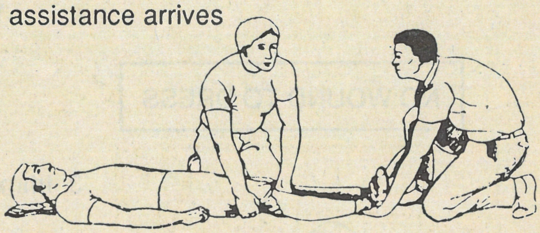
To prevent further injury and lessen pain -

- **DO NOT MOVE THE CASUALTY**
  unless there is danger to life
- **GIVE FIRST AID WHERE THE CASUALTY LIES**



WHEN MEDICAL HELP IS CLOSE BY -

- Call for medical assistance
- Steady and support the injured limb
- Apply and maintain gentle traction until medical assistance arrives
- Cover open wounds with clean dressing



DO NOT APPLY TRACTION IF THE INJURY IS AT OR NEAR A JOINT

6-6

Mark each statement true (T) or false (F).

A. ☑ In first aid for fractures it is most important to avoid more damage and minimize the pain.

B. ☒ A casualty with a fracture should be moved to a hard, flat surface before first aid is given.

C. ☑ When the ambulance is on its way, to stabilize a suspected fracture may be all that is required.

D. ☑ An open fracture should be protected against further contamination.

6-6

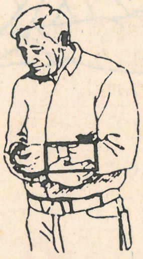
A. T B. F C. T D. T

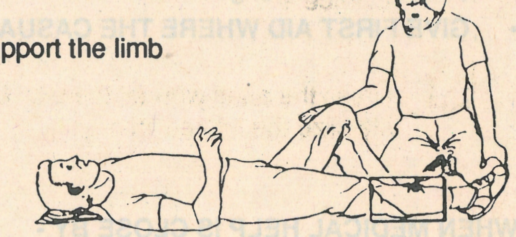
WHEN MEDICAL ASSISTANCE IS NOT READILY AVAILABLE -

FOREARM
(Closed Fracture)

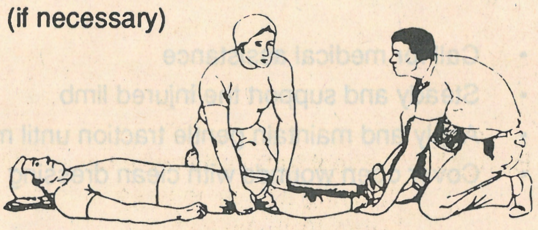
LOWER LEG
(Open Fracture)

1. Steady and support the limb



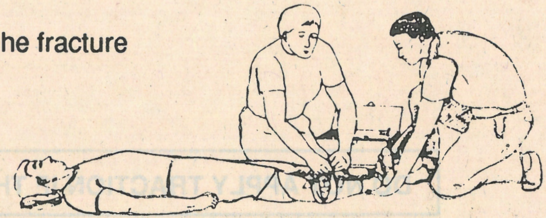


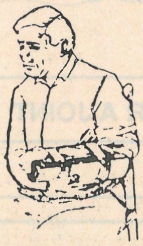
2. Dress wound (if necessary)



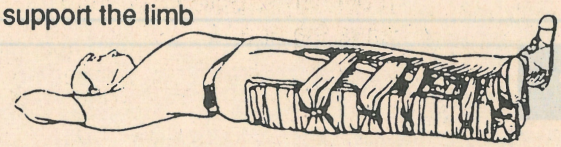
NO WOUND TO DRESS

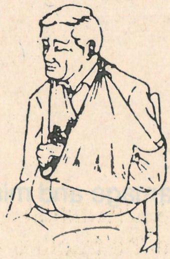
3. Immobilize the fracture



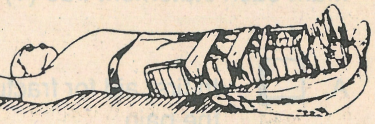


4. Gently raise and support the limb

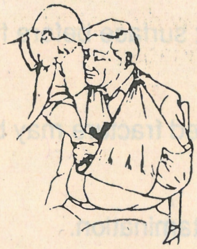


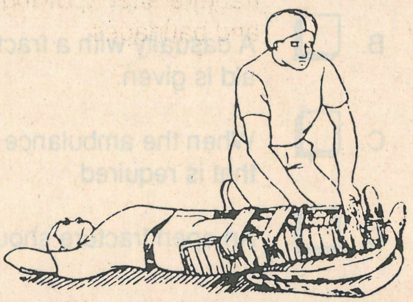


5. Check circulation



6. Get medical assistance





6-8

Listed below are pairs of actions that you could take when giving first aid for a fracture when medical assistance is not readily available. From each pair, tick off the action that is appropriate.

	Choice 1			Choice 2
A. ☑	Dress the open wound; then stabilize the injured limb.	OR	A. ☐	Stabilize the injured limb; then dress the open wound.
B. ☑	Prevent further damage by applying a splint to keep bones from moving.	OR	B. ☐	Prevent further damage by putting bone ends together before splinting.
C. ☑	Place the splinted limb in the most comfortable position to ease the hurt.	OR	C. ☒	Elevate the splinted limb even if the casualty complains of more discomfort.
D. ☑	Check circulation below the fracture after applying a splint and bandages.	OR	D. ☐	Check circulation above the fracture after applying a splint and bandages.

6-8

A. 2 B. 1 C. 1 D. 1

6-9

A **SPLINT** is used to prevent movement of fractured bone ends. Properly applied, a splint can -

- Prevent further tissue damage
- Lessen pain

A good splint should be -

- **RIGID**
- **LONG ENOUGH** to prevent movement in the joints above and below the fracture
- **WIDE ENOUGH** to be comfortable

Splints may be **COMMERCIALLY PREPARED** or **IMPROVISED**.

Improvised splints could be made of, e.g. a ski, a heavy piece of cardboard.

Even uninjured parts of the body can be used as splints, e.g. a leg, sides of the body.

THERE MUST BE PADDING BETWEEN THE INJURED PART AND THE SPLINT

6-10

Mark each statement true **(T)** or false **(F)**.

A. ☑ If a leg is fractured, the unbroken leg can be used as a splint.

B. ☒ A splint for a broken thigh must be long enough to go from the fracture site to below the knee.

C. ☑ A folded magazine or a hockey stick could be used as splints.

D. ☑ A splint for a fractured forearm must extend from the base of the fingers to beyond the elbow.

E. ☑ The limb must be protected from a hard splint.

6-10

A. T **B.** F **C.** T **D.** T **E.** T

REVIEW: MODULE 6

6-11

These questions are based on this workbook exercise, the practical session and the audio-visual.

Mark each statement true **(T)** or false **(F)**.

A. ☑ A fracture site is usually painful, swollen and deformed.

B. ☑ When a fracture is suspected, you should steady and support the injured limb to prevent further damage.

C. ☒ It is unwise to use the uninjured parts of the body as improvised splints.

D. ☑ A splint must be long enough to immobilize the joint above and the joint below the fracture.

E. ☑ To control bleeding from an open fracture with bones protruding, bandage a ring pad in place over tented dressings.

F. ☑ A closed fracture is a bone injury without an open wound.

G. ☒ A casualty with a fracture must be transported to medical assistance before a splint is applied.

6-11

A. T B. T C. F D. T E. T F. T G. F

For more information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapter 8

END OF EXERCISE 6

Exercise 7 CHOKING — CASUALTY FOUND UNCONSCIOUS

THERE IS NO WORKBOOK EXERCISE 7

For information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapter 4

NOTES

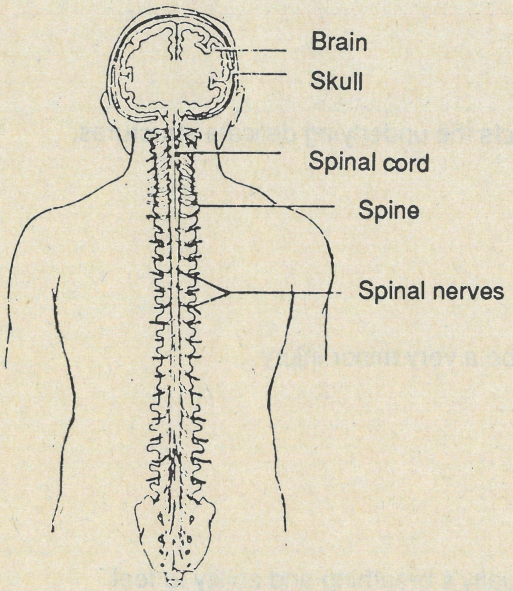
Exercise 8 HEAD AND SPINAL INJURIES

You will have 11 minutes to complete this exercise (pages 8-1 to 8-12)

8-1

INTRODUCTION TO HEAD AND SPINAL INJURIES

INJURIES TO THE HEAD AND SPINE ARE ALWAYS SERIOUS BECAUSE OF THE DANGER OF INJURY TO THE NERVOUS SYSTEM.



The Nervous System is made up of the -

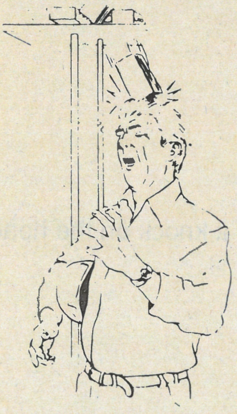
- Brain
- Spinal Cord and
- Spinal Nerves

These delicate tissues are protected by the -

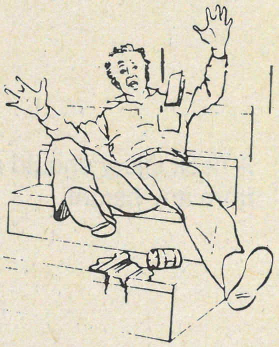
- Skull and the
- Spine (backbone)

ALL BODILY FUNCTIONS (e.g. breathing, blood circulation, taste) **ARE CONTROLLED BY THE NERVOUS SYSTEM.**

A blow to the head may injure the **SKULL** and damage the **BRAIN.**



A force on the neck or back may injure the **SPINE** (backbone) and damage the **SPINAL CORD** and **NERVES.**



ANY BLOW TO THE HEAD CAN RESULT IN A SPINAL INJURY

Mark each statement true **(T)** or false **(F)**.

A. ☐ The spinal cord runs along the outside of the backbone.

B. ☐ The hard covering of the head protects the underlying delicate structures.

C. ☐ A blow to the head is considered to be a very minor injury.

D. ☐ Injury to the brain can affect the casualty's breathing and ability to feel.

E. ☐ The brain, spinal cord and nerves may be damaged by injuries to the skull and spine.

F. ☐ A neck injury should always be suspected following a knock on the head or a fall from any height.

8-2

A. F **B.** T **C.** F **D.** T **E.** T **F.** T

8-3

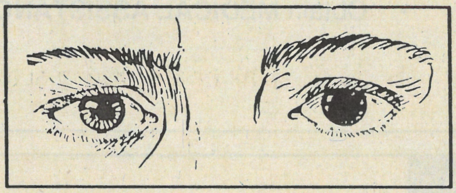
SIGNS AND SYMPTOMS OF HEAD INJURIES

Some or all of the following signs and symptoms may indicate a head injury and possible brain damage.

SIGNS

You may observe:

- Confused behaviour or unconsciousness
- Fluids or bleeding from the ears or nose or both
- Breathing problems
- Unequal size of the pupils of the eyes



SYMPTOMS

The casualty may complain of:

- Dizziness
- Memory loss

8-4

Mark each statement true **(T)** or false **(F)**.

A. ☐ A casualty with a head injury may appear dazed and may have difficulty in taking air into the lungs.

B. ☐ You should suspect that a casualty has a head injury when the pupil of his left eye is larger than the pupil of his right eye.

C. ☐ Blood oozing from the nostrils and/or the ears may be a sign of head injury.

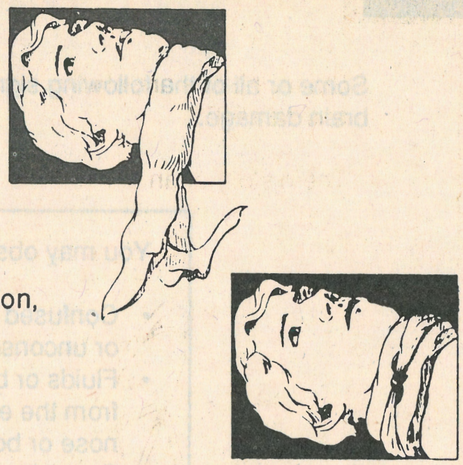
D. ☐ A blow to the head will always cause unconsciousness.

8-4

A. T B. T C. T D. F

FIRST AID FOR HEAD INJURIES

8-5



When a casualty has received a head injury, you should -

- Suspect a **SPINAL INJURY** and immobilize the neck
- Ensure an **OPEN AIRWAY** (use the jaw thrust without head tilt to open the airway)
- Ensure **ADEQUATE BREATHING** (give artificial respiration, if necessary)
- Obtain **MEDICAL ASSISTANCE**

8-6

Which of the following first aid actions should you perform when a casualty suddenly stops breathing following a severe blow to the head?

A. ☐ Begin artificial respiration, using the head tilt-chin lift method to open the airway.

B. ☐ Prevent movement of the neck.

C. ☐ Begin artificial respiration, using the jaw thrust without head tilt method to open the airway.

D. ☐ Quickly place him in the recovery position.

E. ☐ Send someone for qualified help.

8-6

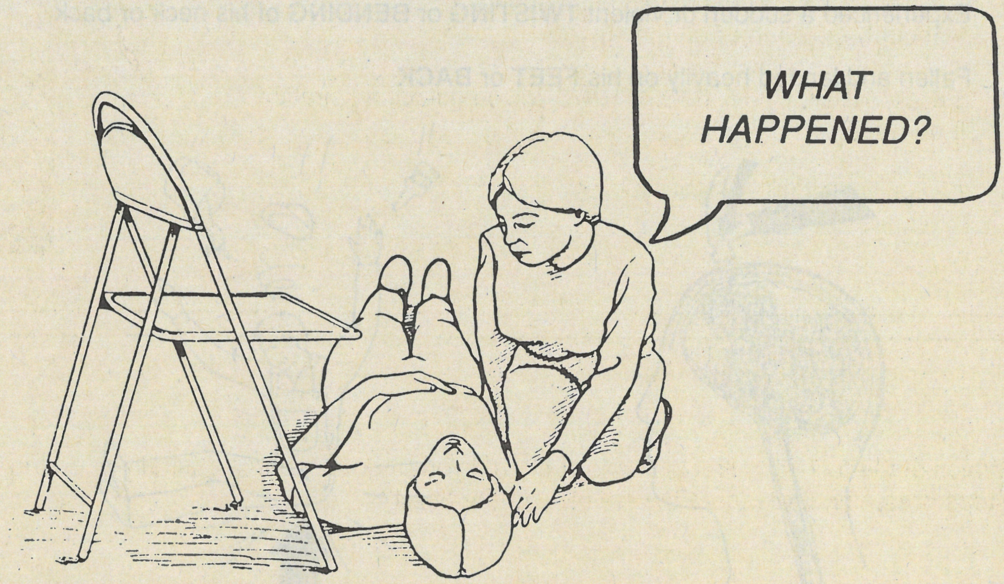
B. ☑ C. ☑ E. ☑

CAUSES OF SPINAL INJURIES

8-7

Spinal injuries are always serious because of the possibility of injury to the **SPINAL CORD** and **NERVES**.

The history of an accident is vital in helping you to recognize a **SPINAL INJURY**.


WHAT HAPPENED?

8-8

Mark each statement true **(T)** or false **(F)**.

A. ☐ A man has fallen from a scaffold and has landed on his back. You should suspect a spinal injury.

B. ☒ The spinal cord is not likely to be injured when a person falls from a kitchen chair and hits his back on the cupboard below.

C. ☑ If an unconscious casualty is lying on the ground, you should ask witnesses what happened and look at the circumstances that caused the accident.

D. ☒ When a person twists his back falling off his bicycle, just help him back onto the bicycle and tell him to see a doctor.

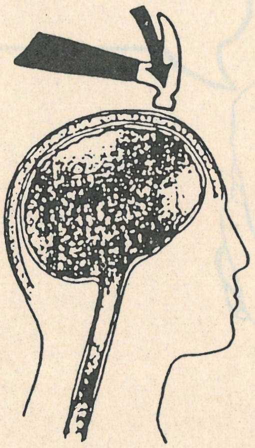
8-8

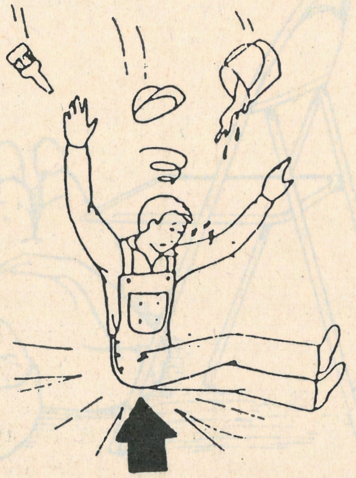
A. T **B.** F **C.** T **D.** F

8-9

You should assume that a casualty has a **SPINAL INJURY** when he has -

- Received a **SEVERE BLOW** to his head, neck or back
- Experienced a sudden or violent **TWISTING** or **BENDING** of his neck or back
- Fallen and landed heavily on his **FEET** or **BACK**





8-10

In which of the following cases should you suspect a spinal injury?

A. ☑ A boy hits his head when he dives into a shallow swimming pool.

B. ☑ A woman injures her forehead on the windshield during a car accident.

C. ☐ A child becomes unconscious after swallowing sleeping pills.

D. ☑ A painter falls 5 m from a window and lands on his buttocks.

E. ☑ A heavy wooden crate falls from a hoist and hits a worker between the shoulder blades.

8-10

A. ✓ B. ✓ D. ✓ E. ✓

SIGNS AND SYMPTOMS OF SPINAL INJURIES

8-11

A spinal injury may cause some or all of the following signs and symptoms -

SIGNS

You may observe:

- Swelling along the backbone
- Paralysis or inability to move the limbs on one side or both sides of the body
- Breathing Problems

SYMPTOMS

The casualty may complain of:

- Severe pain
- Tenderness
- Numbness (loss of feeling) or tingling in the limbs on one side or both sides of the body

8-12

Which of the following signs and symptoms may indicate a spinal injury? Tick (✓) the correct completions.

The casualty -

A. ☑ Has a lump on the bony area at the back of the neck.
B. ☑ Cannot feel his hand being touched.
C. ☒ Is able to make a fist and wiggle his toes.
D. ☑ Tells you that he has a prickling sensation in his hands and feet.
E. ☑ Cries out in pain when the back of his neck is touched.
F. ☑ Cannot move his fingers or toes when asked to do so.

8-12

A. ☑ B. ☑ D. ☑ E. ☑ F. ☑

FIRST AID FOR A SPINAL INJURY

8-13

Moving a casualty with a spinal injury may seriously damage the spinal cord or nerves and lead to **PERMANENT PARALYSIS** or even **DEATH**.

When the **history** of the accident leads you to suspect a spinal injury, **TREAT THE CASUALTY AS IF HE HAS A SPINAL INJURY** and follow this rule -

DO NOT MOVE THE CASUALTY

EXCEPT FOR REASONS OF SAFETY

8-14

Mark each statement true **(T)** or false **(F)**.

A. ☒ You must obtain medical advice before you can assume a casualty has an injury to the backbone.

B. ☑ You should not move an injured person if you think there may be damage to his back unless there is danger.

C. ☒ Careless turning of a casualty with an injury to his spine may cause him to lose his ability to walk.

D. ☑ A casualty may be disabled for life as a result of damage to the spinal cord and nerves.

8-14

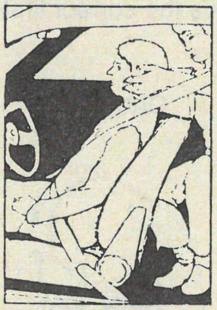
A. F B. T C. T D. T

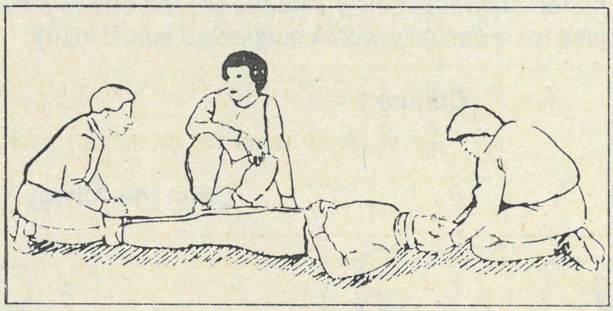
8-15

When a casualty with a suspected **SPINAL INJURY** is **NOT** in immediate danger, **DO NOT MOVE HIM.** Give first aid in the **POSITION FOUND.**

You should -

- **STEADY AND SUPPORT** the casualty to prevent bending or twisting of the head and spine





- **APPLY** a cervical collar
- If the casualty is **UNCONSCIOUS** remember to **MAINTAIN OPEN AIRWAY** at all times and keep under constant observation.
- **MONITOR** breathing. If breathing stops, begin artificial respiration using the **JAW THRUST WITHOUT HEAD TILT** method to open the airway
- Send for **MEDICAL ASSISTANCE**
- Keep the casualty **WARM** and **QUIET** until medical assistance is available

8-16

Tick off (✓) the first aid actions which you should take when you suspect that a casualty has a spinal injury.

A. ☑ Immobilize the casualty's head, neck and back and ensure that air is getting into his lungs.

B. ☒ If artificial respiration is needed, open the airway by pressing backward on the casualty's head.

C. ☑ Maintain the casualty's body heat and get medical help.

D. ☑ If artificial respiration is needed, open the airway by lifting the jaw forward and keeping the neck immobilized.

8-16

A. ☑ C. ☑ D. ☑

REVIEW: MODULE 8

8-17

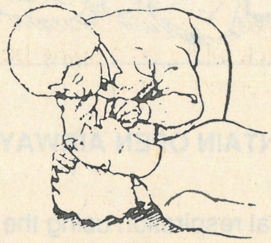
These questions are based on this workbook exercise, the practical session and the audio-visual.

Of the paired diagrams below, choose (✓) the one that best illustrates the correct first aid techniques for a casualty with a suspected spinal injury.

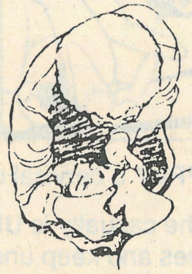
Choice 1 **Choice 2**

Open the Airway

A. ☐



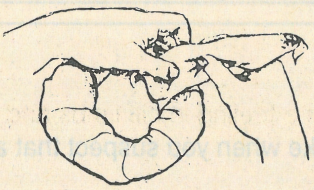
A. ☑



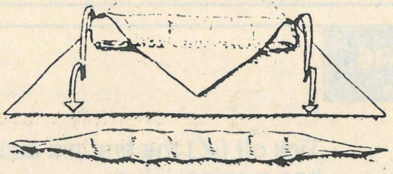
OR

Prepare a Cervical Collar

B. ☐



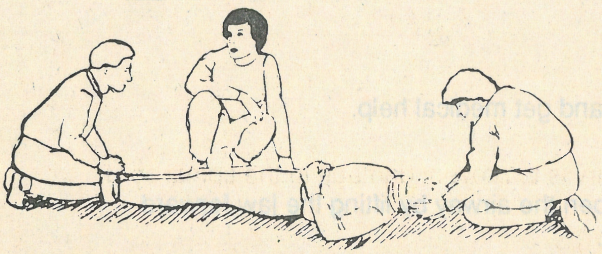
B. ☑



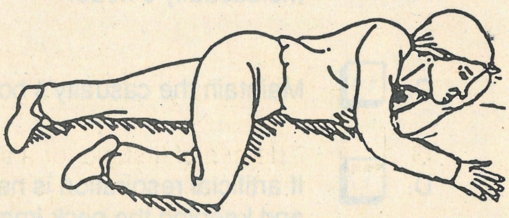
OR

Position the Casualty

C. ☑



C. ☐



OR

8-17

A. 2 B. 2 C. 1

8

8-18

Mark each statement true **(T)** or false **(F)**.

A. ☑ Injuries to the skull or spine may cause damage to the brain, spinal cord or nerves.

B. ☑ Bleeding from the ears, the nose and the unequal size of the pupils of the eyes may be signs of a head injury.

C. ☑ When placing a casualty with a suspected back injury on a spine board, his head and spine must be kept in alignment and prevented from twisting.

D. ☒ The history of an accident has little importance in the assessment of a casualty with a spinal injury.

E. ☑ A casualty with a spinal injury may have no feeling in his limbs and may be unable to move them.

F. ☒ When you suspect that a casualty has a spinal injury, your first aid priority is to transport him immediately to medical assistance.

G. ☑ The aim of first aid for a spinal injury is to prevent damage to the spinal cord.

8-18

A. T **B.** T **C.** T **D.** F **E.** T **F.** F **G.** T

For more information on these topics, refer to:
Emergency First Aid Safety Orièntec, First Edition (Revised), Chapter 8

END OF EXERCISE 8

Exercise 9 JOINT INJURIES AND RESCUE CARRIES

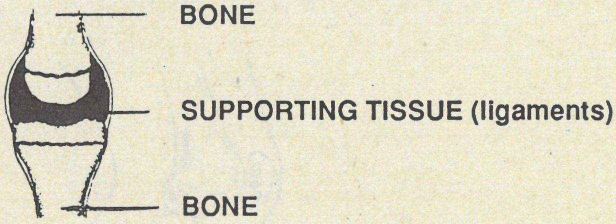
You will have 15 minutes to complete this exercise (pages 9-1 to 9-16)

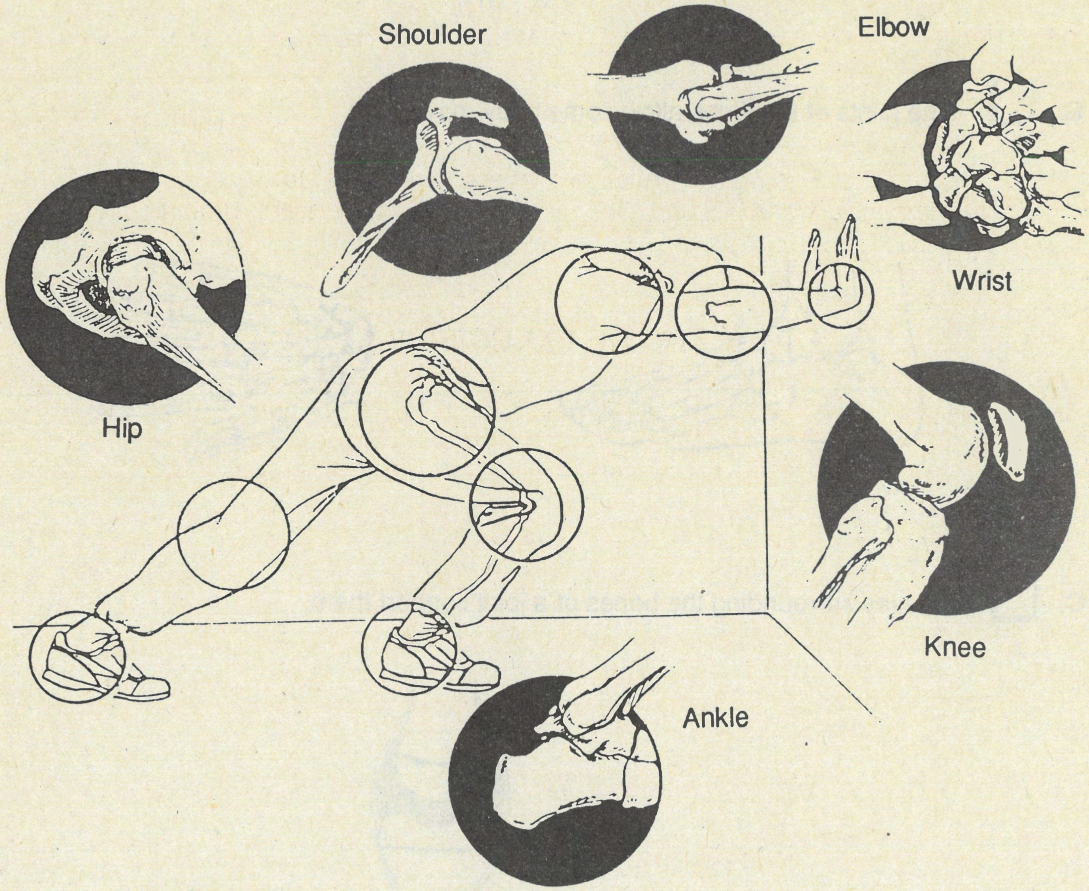
INTRODUCTION TO JOINT INJURIES

9-1

A **JOINT** is formed where two or more bones come together.

The bones of a joint are held in place by **SUPPORTING TISSUES** which allow bones to move within their limited ranges.


BONE
SUPPORTING TISSUE (ligaments)
BONE

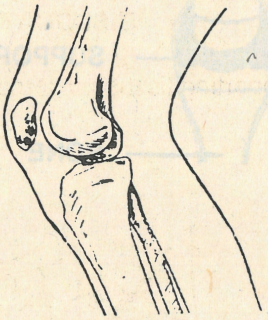

Shoulder
Elbow
Wrist
Hip
Knee
Ankle

Major Joints of the Body

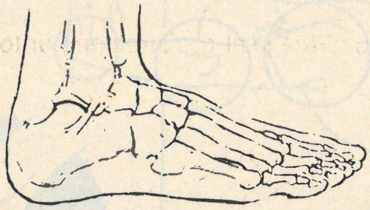
9-2

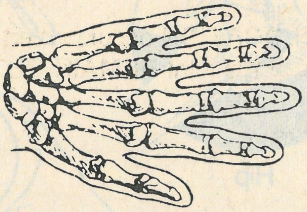
Which of the following statements agree with the accompanying diagrams?

A. ☐ A joint is where two or more bones meet.

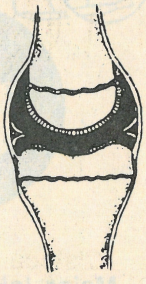


B. ☐ The joints of the limbs allow some body movement.





C. ☐ Tissues surrounding the bones of a joint support them.



9-2

A. ☑ B. ☑ C. ☑

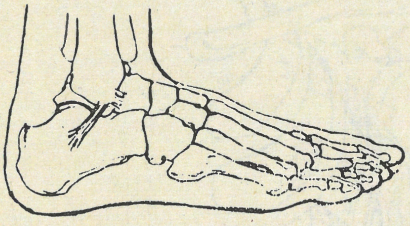
JOINT INJURIES

JOINT INJURIES result when the bones and surrounding tissues are forced to move **BEYOND** their normal range.

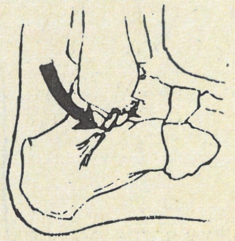
Two common joint injuries are -

- **SPRAINS**
- **DISLOCATIONS**

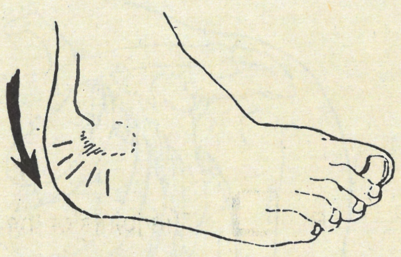
A **SPRAIN** occurs when the supporting tissues (ligaments) around the bones of a joint are **STRETCHED** or **TORN**.



Normal Ankle

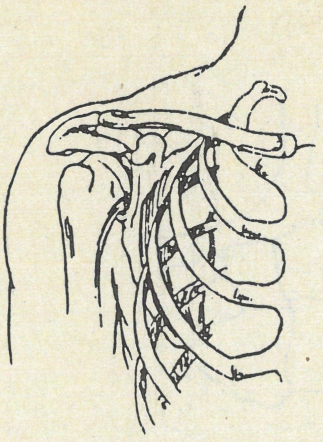


Sprained Ankle

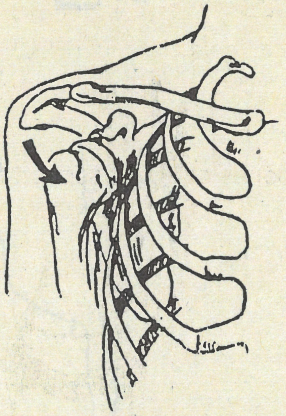


You Will See Swelling

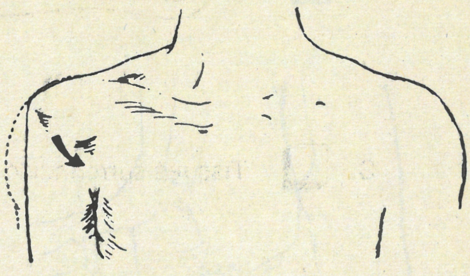
A **DISLOCATION** occurs when the tissues around the joint are stretched or torn and the bones of the joint **REMAIN OUT OF POSITION.**



Normal Shoulder



Dislocated Shoulder



You Will See Deformity

9-4

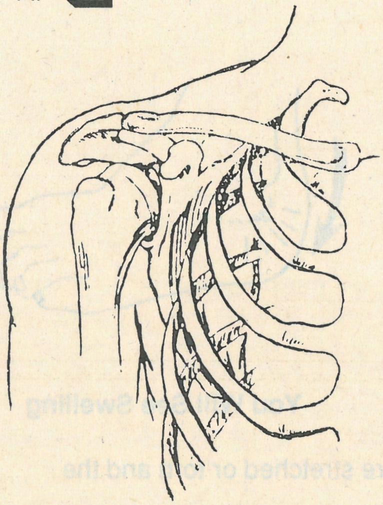
Identify each of the illustrations below as one of the following -

1 Normal joint

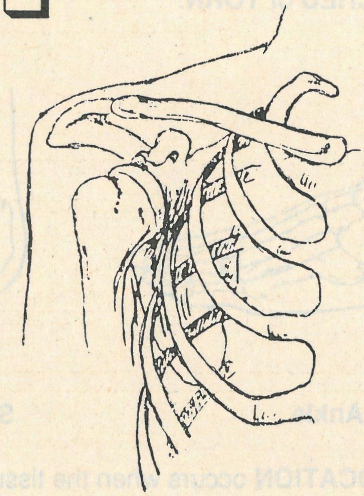
2 Sprain

3 Dislocation

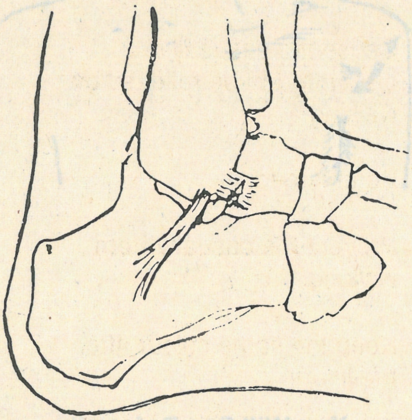
A. ☐



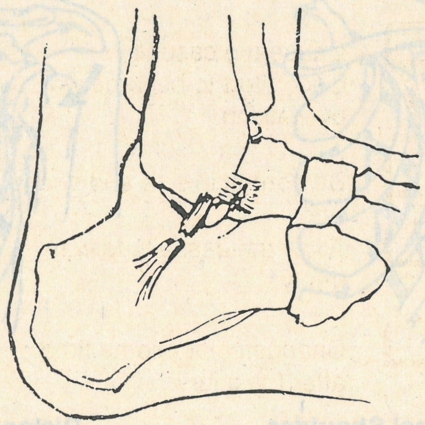
B. ☐



C. ☐



D. ☐



9-4

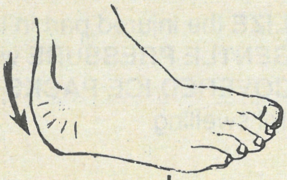
A. 1 B. 3 C. 1 D. 2

9-5

SIGNS AND SYMPTOMS OF A SPRAIN

A **SPRAIN** may be recognized by some or all of the following signs and symptoms -

SIGNS



You may observe:

- Swelling
- Discolouration (bruise may not appear immediately)
- Inability to use the limb

SYMPTOMS

The casualty may complain of:

- Pain, increasing with movement

9-6

Choose the correct completions for the following statement.

A sprained ankle will usually -

	Choice 1			**Choice 2**
A. ☐	Cause the casualty's discomfort to become worse by walking.	OR	A. ☐	Cause the casualty's discomfort to be relieved by walking.
B. ☐	Be normal in size and shape.	OR	B. ☐	Be enlarged.
C. ☐	Allow the casualty to walk freely.	OR	C. ☐	Prevent the casualty from walking.
D. ☐	Change colour some time after the injury.	OR	D. ☐	Keep the same colour after the injury.

9-6

A.	B.	C.	D.
1	2	2	1

FIRST AID FOR A SPRAIN

9-7

When you suspect a joint has been sprained, you should -

- **IMMOBILIZE** the injured part in the **POSITION OF MOST COMFORT**
- **APPLY GENTLE PRESSURE** with a bandage or padding to decrease swelling
- **APPLY COVERED ICE PACKS** (15 minutes on, 15 minutes off) to reduce pain and control swelling

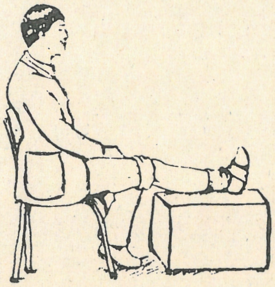
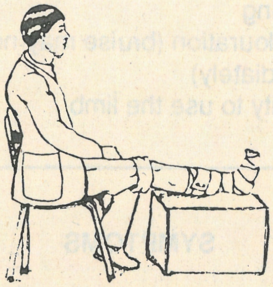
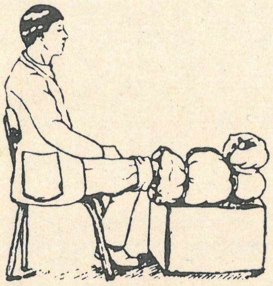


Figure-8 Bandage

OR


Roller Bandage

OR


Pillow Splint

- **ELEVATE** the limb, if possible
- **MONITOR CIRCULATION** below the point of injury frequently; swelling may cause the bandages to restrict circulation
- Obtain **MEDICAL ASSISTANCE** to ensure that the joint is not fractured

9-8

Tick (✓) the first aid procedures you should use when caring for a casualty with a sprain.

A. ☐ Apply a heating pad to a sprained elbow to ease the casualty's discomfort.

B. ☐ Bandage a folded cushion around a sprained ankle.

C. ☐ Apply cold to a sprained wrist to ease the casualty's discomfort.

D. ☐ Support a sprained ankle with a narrow bandage tied around the foot and ankle.

E. ☐ Stabilize and raise the injured part.

F. ☐ Assess blood flow to the hands and feet before bandaging.

9-8

B. ☑ C. ☑ D. ☑ E. ☑

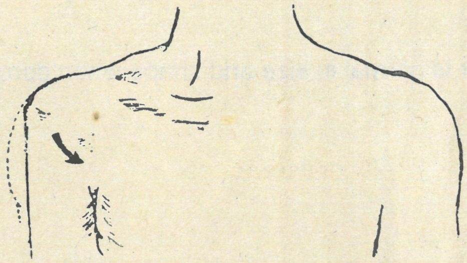
SIGNS AND SYMPTOMS OF A DISLOCATION

A **DISLOCATION** of a joint may be recognized by some or all of the following signs and symptoms -

SIGNS

You may observe:

- Deformity or abnormal appearance (where bones are out of position)

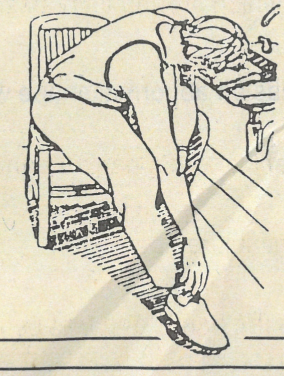


- Swelling
- Discolouration (bruise may appear later)
- Inability to move the joint
- Casualty supports arm on the injured side away from the body when a shoulder is dislocated

SYMPTOMS

The casualty may complain of:

- Very severe pain (made worse by movement)



9-10

Which of the following signs and symptoms would help you to assess the casualty's injury as a dislocated right shoulder?

A. ☐ He is holding his right arm slightly outward from the body.

B. ☐ The right shoulder is normal in size and shape when compared to the left shoulder.

C. ☐ He complains violently when you try to lift his right arm.

D. ☐ He is able to rotate the right arm freely from the shoulder.

E. ☐ The right shoulder has an abnormal shape when compared to the left shoulder.

9-10

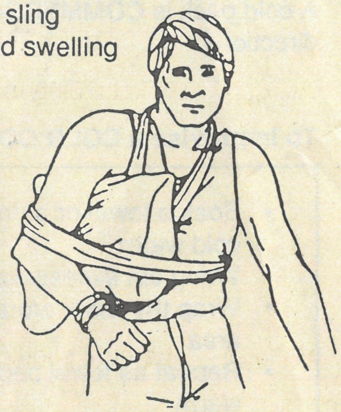
A. ☑ **C.** ☑ **E.** ☑

FIRST AID FOR A DISLOCATION

9-11

When you suspect a dislocation of a joint, you should -

- **NEVER** attempt to return bones to their normal position
- **STEADY** and **SUPPORT** the injured part in the **POSITION OF MOST COMFORT**
- **IMMOBILIZE THE JOINT** by applying suitable padding and a sling
- **APPLY COVERED ICE PACKS** to the joint to reduce pain and swelling
- **MONITOR CIRCULATION** to the limb by checking the colour and temperature of the hand or foot
- Obtain **MEDICAL ASSISTANCE**



If the hand or foot becomes cold and bluish, the condition is critical. Medical assistance must be obtained **AT ONCE**.

9-12

To give first aid for a dislocation you should -

		Choice 1				**Choice 2**
A.	☐	Place the dislocated bone back in position.	**OR**	A.	☐	Leave the dislocated bone in the position found.
B.	☐	Stabilize the limb in the position found.	**OR**	B.	☐	Secure the limb tightly to the body.
C.	☐	Apply heat to the injured part.	**OR**	C.	☐	Apply cold to the injured part.
D.	☐	Check blood flow to the limb below the site of injury.	**OR**	D.	☐	Check blood flow to the limb above the site of injury.
E.	☐	If signs and symptoms show decrease of blood flow to the limb, rotate the joint backward.	**OR**	E.	☐	If signs and symptoms show decrease of blood flow to the limb, seek medical help urgently.

9-12

A.	B.	C.	D.	E.
2	1	2	1	2

APPLICATION OF COLD

9-13

A **COLD COMPRESS, ICE BAG** or **COLD PACK** may be used to relieve pain and help control swelling caused by an injury.

A cold compress and an ice bag can be **IMPROVISED.**

A cold pack is **COMMERCIALLY** prepared and should be used following the manufacturer's directions.

To improvise a COLD COMPRESS:

- Soak a towel or a dressing in cold water
- Wring out excess water
- Wrap the towel around affected area
- Repeat as towel becomes warm

To improvise an ICE BAG:

- Fill plastic bag 2/3 full of crushed ice
- Expell excess air
- Seal the bag
- **Wrap the bag in a towel**
- Apply to affected area (15 minutes on, 15 minutes off)
- Replace ice as necessary

DO NOT APPLY AN ICE BAG OR COLD PACK DIRECTLY TO THE SKIN BECAUSE THE COLD CAN CAUSE INJURY

9-14

Mark each statement true (T) or false (F).

A. ☐ A cold face cloth should never be placed on the skin.

B. ☐ A cold pack can be used alone as direct pressure to stop bleeding.

C. ☐ An ice bag should always be wrapped in soft but thick material.

D. ☐ The use of cold helps to keep swelling to a minimum and to reduce discomfort.

E. ☐ When ice is placed directly on a wound, it may result in soft tissue damage.

9-14

A. F B. F C. T D. T E. T

PRINCIPLES FOR MOVING A CASUALTY

9-15

In most emergency situations, **DO NOT MOVE THE CASUALTY.**

You should give first aid where the casualty is found and arrange for medical assistance to come to the scene.

However, there are times when **YOU MUST MOVE** the casualty **IMMEDIATELY.**
This is when -

- His life is threatened by a **HAZARDOUS SITUATION** such as fire, explosion, flood or poisonous gas.
- First aid for life-threatening conditions **CANNOT BE GIVEN** where he lies.

9-16

In which of the following situations should you move the casualty before you give first aid?

	Move	Do Not Move
A. A mechanic is lying inside a burning car.	☐	☐
B. An elderly man is lying unconscious on a sidewalk.	☐	☐
C. A woman is lying in a ditch of water with her face submerged.	☐	☐
D. A teenager is lying at the foot of a long stairway.	☐	☐
E. A child is floating in a lake under an overturned boat.	☐	☐

9-16

A. Move **B.** Do Not Move **C.** Move **D.** Do Not Move **E.** Move

9-17

If medical assistance is **NOT READILY AVAILABLE** or is **TOO FAR AWAY**, you will be required to move the casualty after giving first aid.

If you must **MOVE** the casualty, you should -

- Ensure that his injuries are protected
- Select the method of moving that poses the **LEAST RISK** to yourself and the casualty
- Use a **STRETCHER** whenever possible to move a casualty with serious injuries
- Use as many bystanders as needed to minimize risks

SPECIAL PRECAUTIONS

If the casualty has a suspected **SPINAL INJURY**

- Apply a cervical collar
- Immobilize the casualty
- Use a firm, flat spine board
- Place a support on each side of the head

If the casualty is **UNCONSCIOUS**

- Move him on a stretcher in the recovery position
- Ensure his airway is open
- Monitor his breathing

9-18

When you must carry a casualty for a long distance, which of the following should you do?

A. ☐ Move the casualty by yourself to avoid injury to bystanders.

B. ☐ Ensure that the airway does not become obstructed when the casualty is unconscious.

C. ☐ Take measures to prevent his injuries from becoming worse.

D. ☐ Use a rigid carrying device with head supports when you assume that the casualty has a neck injury.

E. ☐ Use a carrying device only if the casualty is unconscious.

9-18

B. ☑ C. ☑ D. ☑

9-19

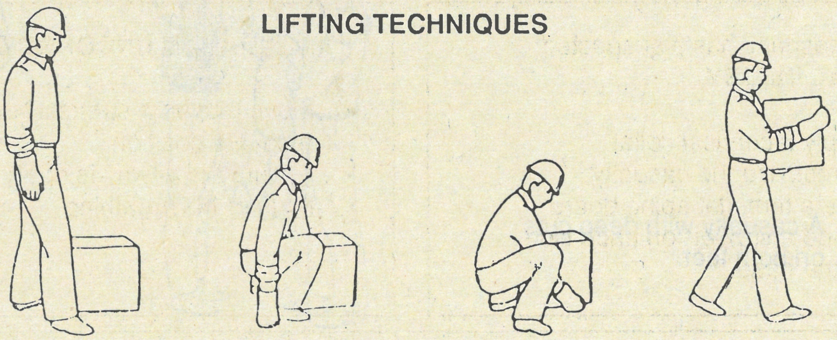
When lifting and transporting a heavy object, such as a casualty, rescuers should protect themselves from injuries.

They should use **PROPER BODY MECHANICS** -

- Stand **CLOSE** to the casualty
- Bend the **KNEES**; do not stoop
- Get a **GOOD GRIP** on the casualty or equipment
- Use the thigh, leg and abdominal muscles to lift, and keep the back **STRAIGHT**

Ensure that rescuers lift together on a signal.
If the rescuers are unskilled, **PRACTISE** the proper techniques before moving the casualty.

LIFTING TECHNIQUES



9-20

Which of the following are safety practices that would protect persons attempting to rescue a casualty?

A. ☐ Keep the legs straight as you bend from the waist to lift the casualty with your arms.

B. ☐ Position yourself next to the casualty and hold him firmly as you lift.

C. ☐ Use the power of your legs to lift the casualty.

D. ☐ Always lift the casualty by yourself and keep bystanders away.

E. ☐ Make sure that all rescuers can perform the correct procedures before attempting the rescue.

9-20

B. ☑ C. ☑ E. ☑

REVIEW: MODULE 9

9-21

These questions are based on this workbook exercise, the practical session and the audio-visual.

When medical assistance is not readily available and the casualty must be moved, which of the rescue carries shown below should you use? Match each of the following casualties with the most appropriate rescue carry by writing the relevant number into the boxes.

Casualties

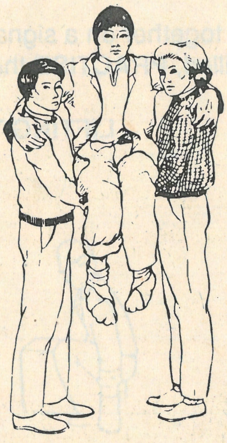
A. ☐ A casualty with a sprained ankle and an injured hand.

B. ☐ A casualty with deep cuts on both feet.

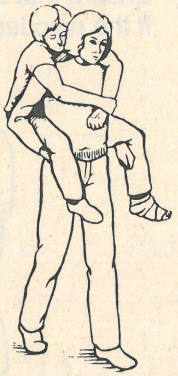
C. ☐ A light-weight casualty who has a broken ankle.

D. ☐ A heavy-set casualty who has a suspected sprained ankle.

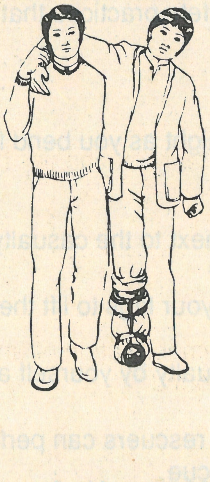
Rescue Carries



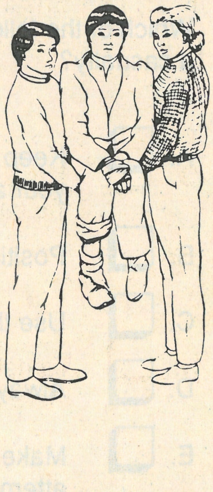
1. Four-hand seat



2. Pick-a-back



3. Human crutch



4. Two-hand seat

9-21

A. 4 B. 1 C. 2 D. 3

9-22

Mark each statement true (**T**) or false (**F**).

A. ☐ A sprain occurs when tissues are torn around the bones of a joint.

B. ☐ A dislocation is a joint injury in which a bone pops out of position.

C. ☐ You should apply hot compresses to an injured joint to lessen pain and swelling.

D. ☐ When you give first aid for a dislocated right shoulder, support the right arm in the position that causes the least pain.

E. ☐ You should only move a casualty when his life is in danger or when life-saving first aid cannot be given where he lies.

F. ☐ Ensure an open airway when transporting an unconscious casualty on a stretcher.

G. ☐ The use of proper body mechanics by rescuers will help prevent further injury to the casualty.

H. ☐ To help with the immobilization of ankle or foot injuries, footwear may be left on if there is no open wound.

9-22

A. T **B.** T **C.** F **D.** T **E.** T **F.** T **G.** F **H.** T

For more information on these topics, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapters 8, 14

END OF EXERCISE 9

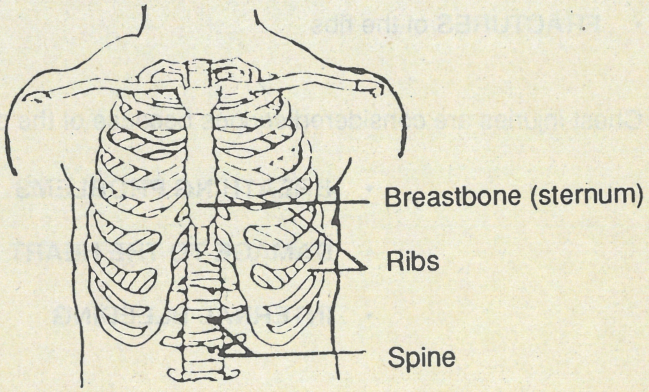
Exercise 10 CHEST INJURIES

You will have 11 minutes to complete this exercise (pages 10-1 to 10-12)

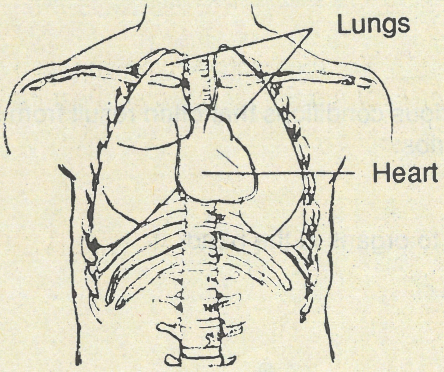
INTRODUCTION TO CHEST INJURIES

10-1

The **CHEST CAVITY** is formed by the **BREASTBONE** (sternum), **RIBS** and **SPINE**.



These bones form a cage which protects the **LUNGS** and the **HEART**.



10-2

Mark each statement true **(T)** or false **(F)**.

A. ☐ The lungs and the heart are located in the chest cavity.

B. ☐ The breastbone lies along the spine.

C. ☐ The breastbone, ribs and spine create the shape of the chest.

D. ☐ The bones forming the chest cavity help to prevent damage to important organs in the chest.

10-2

A. T **B.** F **C.** T **D.** T

10-3

Two types of chest injuries are -

- **PENETRATING WOUNDS** (when the chest is punctured)
- **FRACTURES** of the ribs

Chest injuries are considered serious because of the possibility of -

- **BREATHING PROBLEMS**
- **DAMAGE TO THE HEART AND LUNGS**
- **INTERNAL BLEEDING**

10-4

Identify three serious conditions that often result from a puncture wound of the chest or a fracture of the ribs.

A. ☐ Injury to organs in the head.

B. ☐ Blood escaping into the chest cavity.

C. ☐ Severe bleeding coming from the ears.

D. ☐ Injury to the organs in the chest.

E. ☐ Laboured breathing.

10-4

B. ☑ D. ☑ E. ☑

PENETRATING CHEST WOUND

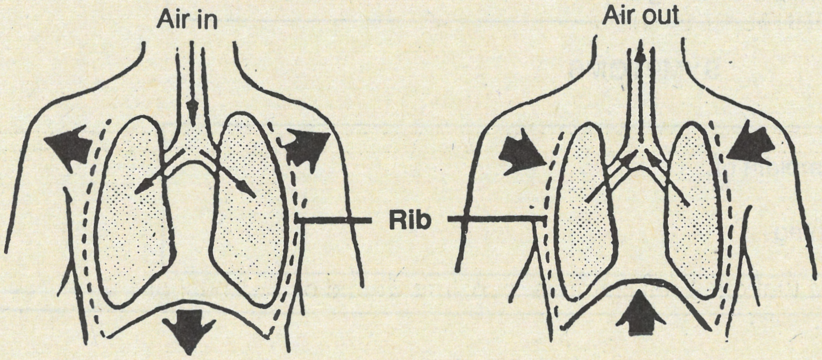
10-5

A **PENETRATING CHEST WOUND** results when an object punctures the chest.

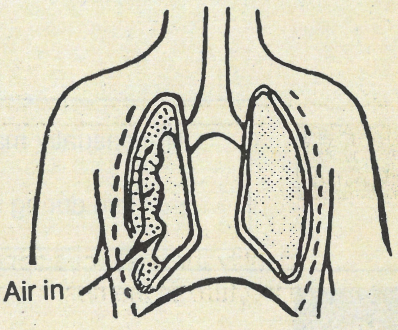
The penetrating object creates an **OPEN WOUND** in the chest wall.

The open wound allows air to enter directly into the chest cavity and results in **SERIOUS BREATHING PROBLEMS**.

Some puncture injuries, such as gunshot wounds, may have both an **ENTRY** and an **EXIT** wound.



Normal Chest Action



Penetrating Chest Wound

10-6

Which of these conditions may be present following a puncture wound of the chest?

A. ☐ The casualty's breathing is unchanged.

B. ☐ Air is flowing into the chest cavity through the hole in the chest.

C. ☐ There is a possibility of two wound sites.

D. ☐ The chest cavity is open to the outside air.

10-6

B. ✓ **C.** ✓ **D.** ✓

10-7

Some or all of the following signs and symptoms may indicate a penetrating chest wound -

SIGNS

You may observe:

- Sound of air being sucked into the chest when the casualty breathes in
- Bloodstained bubbles at the wound site when the casualty breathes out
- Coughing up of bright red frothy blood
- Laboured breathing
- Signs of severe shock
- Cyanosis (blue lips, ears and fingers)

SYMPTOMS

The casualty may complain of:

- Pain during breathing

10-8

Which of the following are signs and symptoms of a penetrating chest wound?

	Choice 1			**Choice 2**
A. ☐	The casualty breathes normally and his skin is dry.	OR	A. ☐	The casualty breathes with difficulty and his skin is clammy.
B. ☐	Frothy red blood appears around the wound.	OR	B. ☐	Blood is not seen around the wound.
C. ☐	Sucking noises are heard when the casualty breathes.	OR	C. ☐	Breathing is very shallow and quiet.
D. ☐	The casualty coughs up a clear fluid.	OR	D. ☐	The casualty coughs up frothy bright red blood.

10-8

A.	B.	C.	D.
2	1	1	2

10-9

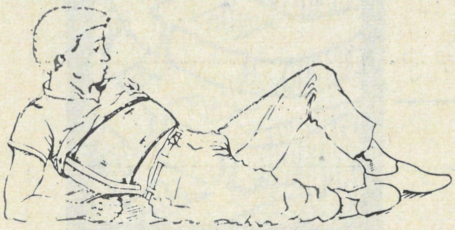
You have seen and practised the first aid for a penetrating chest wound.

Illustrated below are first aid procedures for a penetrating chest wound. From the choices given, tick (✓) the correct procedure for each step.

Choice 1		**Choice 2**

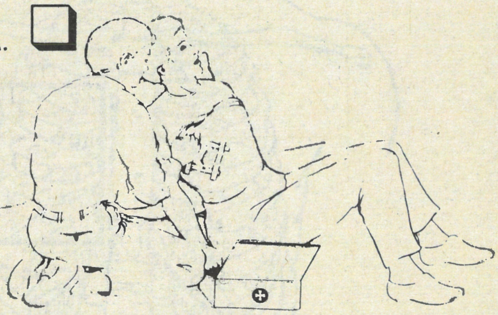
Seal the wound

A. ☐



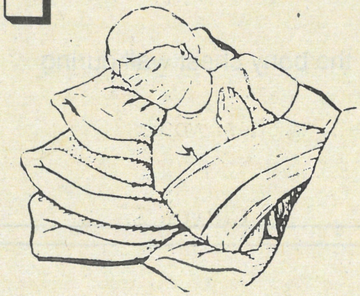
OR

A. ☐



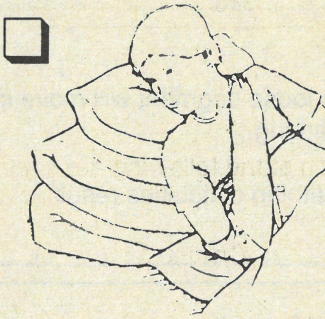
Support the arm on the injured side and position the casualty to ease breathing

B. ☐



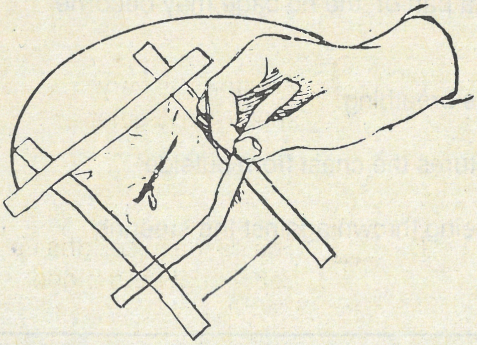
OR

B. ☐



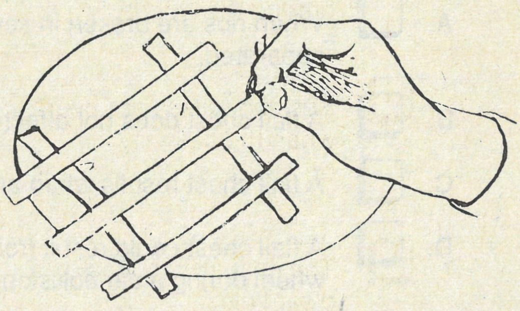
Relieve air build-up in the chest to improve breathing

C. ☐



OR

C. ☐



10-9

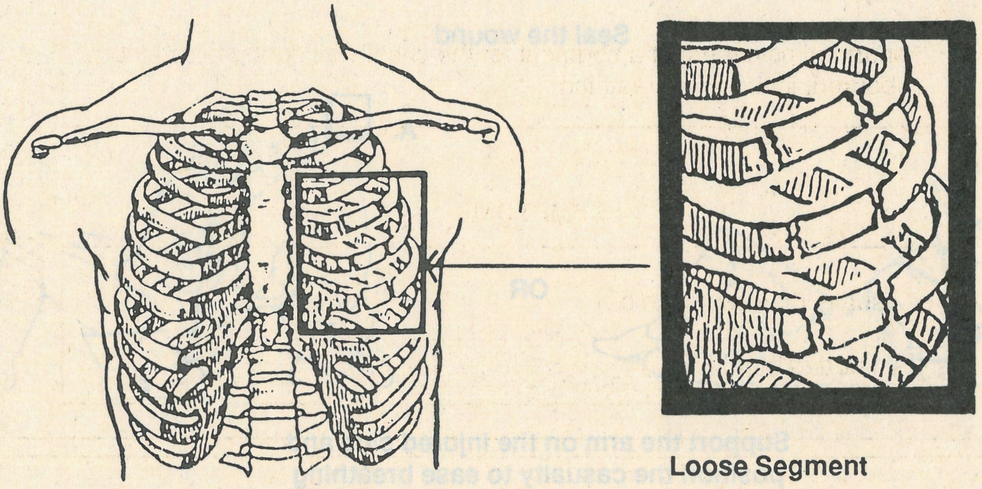
A. 2 B. 2 C. 1

FLAIL CHEST

10-10

A severe blow or crushing force to the chest may produce a **FLAIL CHEST**.

FLAIL CHEST is a term used to describe a condition in which several ribs are fractured in **MORE THAN ONE PLACE**, loosening a segment of the chest wall.



The loose segment will move independently and not with the bony chest wall during breathing.

Breathing difficulties result.

10-11

Mark each statement true **(T)** or false **(F)**.

A. ☐ When ribs are broken in several places, a part of the rib cage may become separated.

B. ☐ A flail chest does not affect the casualty's breathing.

C. ☐ A flail chest results when an object punctures the chest from outside.

D. ☐ A flail chest could result from a person being thrown against the steering wheel during a car collision.

10-11

A. T B. F C. F D. T

10

10-12

The following are signs and symptoms of a flail chest -

SIGNS

You may observe:

- Abnormal movement of a segment of the chest wall during breathing
- Laboured, ineffective breathing

SYMPTOMS

The casualty may complain of:

- Pain during breathing

10-13

Which of the following signs and symptoms may indicate a flail chest?

A. ☐ Breathing is normal and regular.

B. ☐ The casualty complains that his chest hurts when he breathes.

C. ☐ The casualty has a large open chest wound.

D. ☐ Part of the chest wall does not rise and fall with the rest of the rib cage.

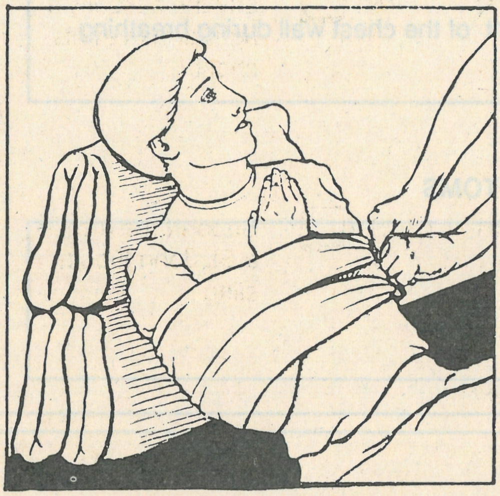
10-13

B. ☑ D. ☑

FIRST AID FOR A FLAIL CHEST

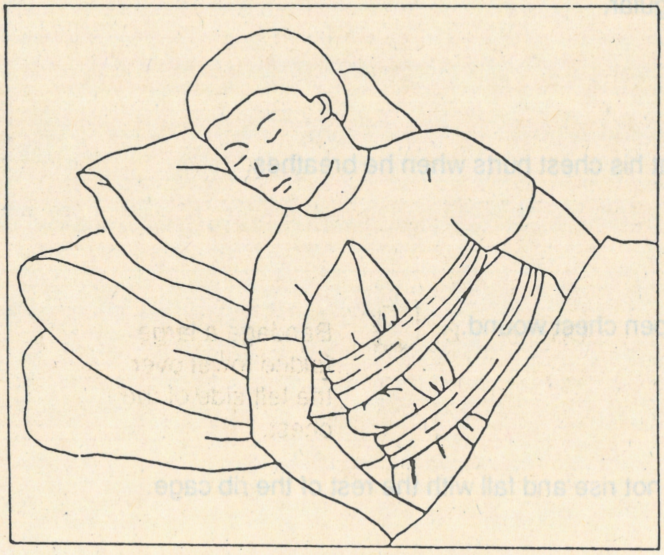
The aim of first aid for a flail chest is to **STABILIZE THE LOOSE SEGMENT** in order to ease breathing.

To stabilize the loose segment, you should -



- Bend the casualty's arm across the chest on the **INJURED** side
- Apply **TWO BROAD BANDAGES** over the arm, tying them on the **UNINJURED** side

OR



- Bandage a **FIRM PAD** or **PILLOW** over the injured area
- Monitor **BREATHING** and **PULSE**

10-15

Choose the correct techniques for stabilizing a flail chest on the casualty's right side.

	Choice 1			Choice 2
A. ☐	Lay the casualty's left arm over his chest.	OR	A. ☐	Lay the casualty's right arm over his chest.
B. ☐	Secure the arm to the chest with two broad bandages.	OR	B. ☐	Support the arm in a St. John tubular sling.
C. ☐	Tie off bandages against the right side of the chest.	OR	C. ☐	Tie off bandages against the left side of the chest.

An alternative technique is to -

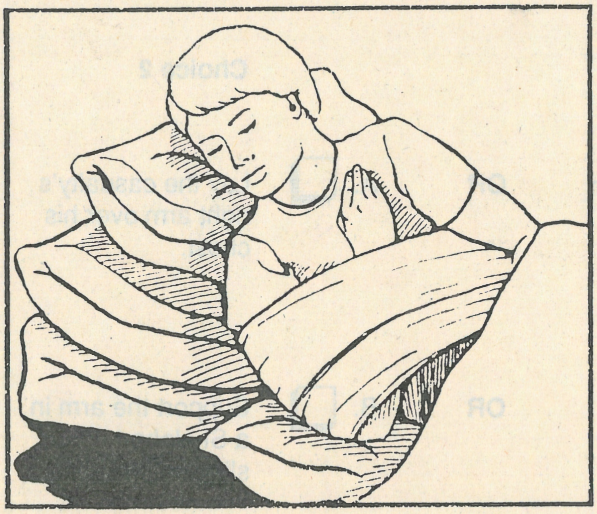
D. ☐	Bandage a large, folded towel over the right side of the chest.	OR	D. ☐	Bandage a large, folded towel over the left side of the chest.

10-15

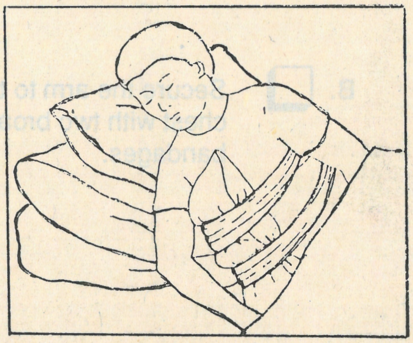
A. 2 B. 1 C. 2 D. 1

10-16

Once you have applied bandages to support a flail chest, you should -



- Place the casualty in a **SEMISITTING** position, inclined to the **INJURED SIDE** to assist breathing
- Obtain **MEDICAL ASSISTANCE**
- Monitor **BREATHING** and **PULSE**



10-17

In what position should you place a conscious casualty with a suspected flail segment on the left side of his chest?

A. ☐ In the recovery position, with his head turned to the left.

B. ☐ Lying on his left side, with his head and shoulders raised and supported.

C. ☐ Lying on his right side, with his head and shoulders raised and supported.

D. ☐ Flat on his back, with his head turned to the right.

10-17

B. ☑

10-18

These questions are based on this workbook exercise, the practical session and the audio-visual.

Mark each statement true **(T)** or false **(F)**.

A. ☐ The ribs, breastbone and backbone protect the lungs and heart.

B. ☐ The aim of first aid for chest injuries is to ensure adequate breathing and relieve pain.

C. ☐ Two stab wounds of the chest are referred to as a flail chest.

D. ☐ An open puncture wound of the chest allows air to flow directly into the chest cavity.

E. ☐ A flail chest allows air to escape from the chest cavity.

F. ☐ A sign of a penetrating chest wound is the sound of air being sucked into the chest cavity.

G. ☐ Frothy red blood is likely to be seen around a penetrating chest wound.

H. ☐ When you have sealed a penetrating chest wound and the casualty develops severe breathing problems, you should loosen the tape on one side of the airtight covering.

10-18

A. T **B.** T **C.** F **D.** T **E.** F **F.** T **G.** T **H.** T

For more information on these topics, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapters 5, 8

END OF EXERCISE 10

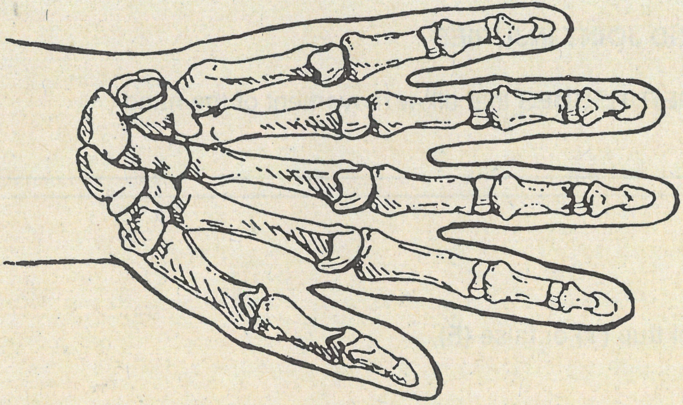
Exercise 11 HAND INJURIES

You will have 11 minutes to complete this exercise (pages 11-1 to 11-12)

INTRODUCTION TO HAND INJURIES

11-1

The hand is made up of many bones and joints which connect them; and other tissues such as muscles, tendons and nerves.



The Human Hand

The hand is a complicated structure. Each part depends on many others to allow for a wide range of **MOVEMENT** and to give it **STRENGTH** and **DEXTERITY** (skill in handling things).

11-2

Mark each statement true **(T)** or false **(F)**.

A. ☐ Each part of the hand functions on its own.

B. ☐ The hand is formed by one large, flat bone.

C. ☐ An injury to one part of the hand may involve many other parts.

D. ☐ The hand contains many bony structures and different soft tissues.

11-2

A. F B. F C. T D. T

11-3

Even minor injuries to the hand must be considered serious.

Most hand injuries result in temporary or permanent **LOSS OF MOVEMENT** and **FUNCTION** of the fingers.

A hand injury may involve -

- **WOUNDS**
- **FRACTURES AND JOINT INJURIES**
- **INJURY to OTHER TISSUES** that allow movement of the hand

11-4

Mark each statement true (T) or false (F).

A. ☐ A wound to a hand may heal, but the hand may not be able to move normally.

B. ☐ A serious accident to the hand could result in several broken bones.

C. ☐ Hand movement may be impaired if the soft parts of the hand are damaged.

D. ☐ Hand injuries without heavy bleeding require little attention.

11-4

A. T B. T C. T D. F

SAFETY PRACTICES

11-5

The frequency of hand injuries is very high. **SAFETY PRACTICES** can help to prevent hand injuries.

You should -

- **WEAR HAND PROTECTION** for dangerous work or sports activities
- **OBTAIN PROPER CARE** for minor hand injuries
- Know and follow the **RULES FOR SAFE OPERATION OF MACHINERY**
- **NOT WEAR JEWELLERY** when working with machinery
- **TURN OFF MOTORS** and **SHUT DOWN MACHINES** before attempting repairs
- Handle **SHARP OBJECTS** with care

11-6

Which of the following actions should you take to protect your hands from injury?

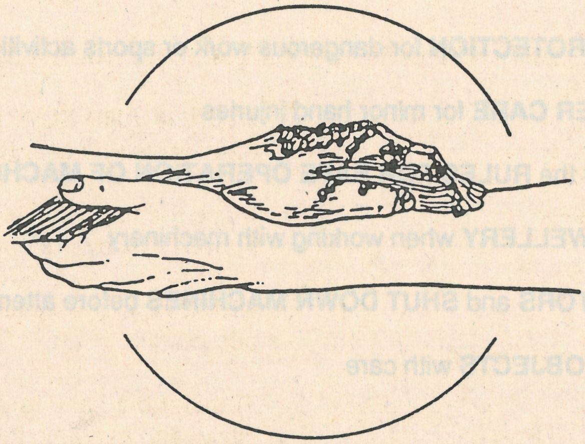
	Yes	**No**	
A.	☐	☐	Leave hands uncovered to have a better feeling for the equipment you work with.
B.	☐	☐	Store knives in drawers with sharp edges turned up.
C.	☐	☐	Switch off the power before you clean the blades of a lawn-mower.
D.	☐	☐	Read the operating directions before you use a power saw.
E.	☐	☐	Put on safety gloves when you work with dangerous chemicals or equipment.
F.	☐	☐	Avoid wearing rings or bangles when using mechanical equipment.

11-6

A. No **B.** No **C.** Yes **D.** Yes **E.** Yes **F.** Yes

POSITION OF FUNCTION

An injured hand should be placed **PALM DOWN** in a relaxed position, with the fingers slightly curled over a pad of dressings. This position is called the **POSITION OF FUNCTION**.



Position of Function

This is usually the most comfortable position for a badly injured hand.

11-8

Which position is thought to be the best for a hand that has been caught in the door of a car?

A. ☐ Resting with the palm upwards and the fingers relaxed.

B. ☐ The fingers closed tightly in a fist.

C. ☐ Resting with the fingers turned downwards and supported on a wad of tissues.

D. ☐ Stretched out, with the palm lying on a flat, hard surface.

11-8

C. ☑

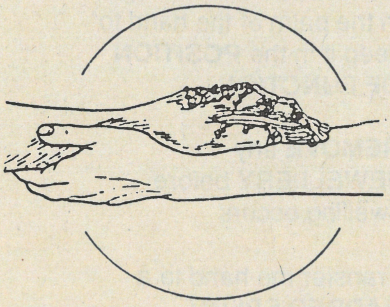
FIRST AID FOR A CRUSHED HAND

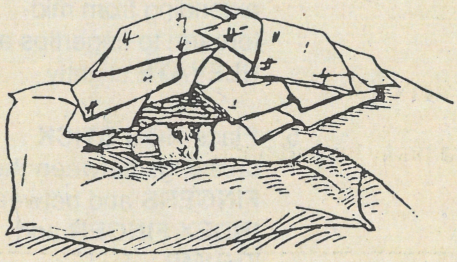
11-9

A **CRUSHED HAND** is caused by a severe blow or a great force to the hand.

The first aid given for a **CRUSHED HAND** depends on whether or not medical assistance is readily available.

When **MEDICAL ASSISTANCE** is **READILY AVAILABLE** you should -





- **STEADY AND SUPPORT** the injured hand while you seat the casualty
- Place the hand in the **POSITION OF FUNCTION** over a pad of dressings
- **REMOVE** any jewellery before swelling occurs
- Transfer the hand to a firm, soft pad or pillow and maintain the position of function
- Cover the injured hand with **CLEAN DRESSINGS**
- Transport the casualty to medical assistance **IMMEDIATELY**

11-10

One of your co-workers has crushed his hand in a machine. Medical assistance is within walking distance.

What first aid should you give before getting him to medical assistance?

A. ☐ Soak the hand in cool water to ease the pain.

B. ☐ Rest the hand palm down on a padded surface with fingers supported and cover the hand with several gauze squares.

C. ☐ Leave the hand uncovered and have the casualty support his arm.

D. ☐ Take off all rings before the fingers become puffy.

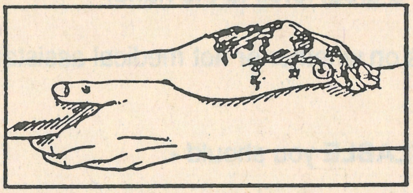
11-10

B. ☑ D. ☑

When **MEDICAL ASSISTANCE** is **NOT READILY AVAILABLE**, you should -

1. **STEADY AND SUPPORT** the injured hand
2. Place a pad of dressings in the palm of the hand to keep it in the **POSITION OF FUNCTION**
3. **REMOVE** any **JEWELLERY** before swelling occurs
4. Transfer the hand to a **PADDED SPLINT** extending from mid-forearm to fingertips and **ELEVATE** slightly
5. Place **NON-STICK** dressings between the **FINGERS** and between **INDEX FINGER** and **THUMB**
6. Cover the injured hand with **STERILE DRESSINGS** or a **CLEAN CLOTH**
7. Starting at the fingertips, apply a **ROLLER BANDAGE** to secure the hand to the splint
8. Apply an **ARM SLING**

1.



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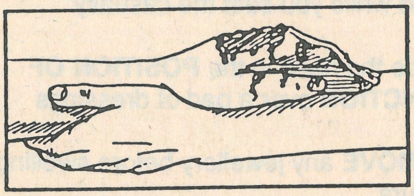

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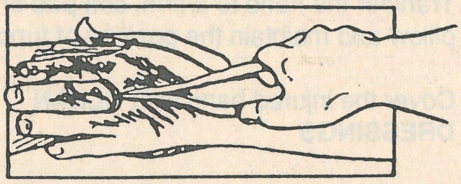

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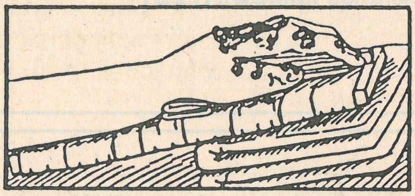

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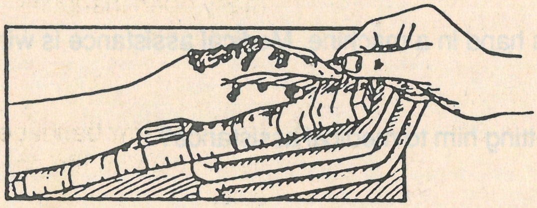

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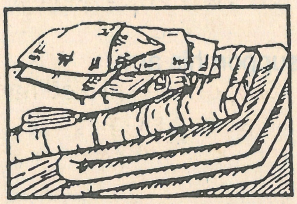

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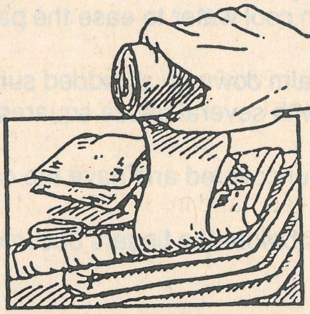

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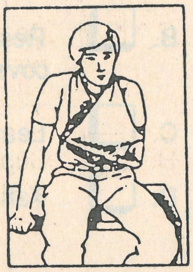


Transport the casualty to medical assistance.

11-12

When giving first aid to a casualty with a crushed hand and medical assistance is not readily available, you should -

	Choice 1			Choice 2
A.	☐ Grasp the injured hand at the wrist and take off any rings.	**OR**	A.	☐ Rest the injured hand on your hand and take off any rings.
B.	☐ Support the hand, palm down and fingers curled, with a clean pad of tissues.	**OR**	B.	☐ Support the hand in a flat position with dressings between the fingers.
C.	☐ Rest the injured hand palm down on a padded splint before bandaging.	**OR**	C.	☐ Place the injured hand palm down on a padded splint after bandaging.
D.	☐ Place gauze dressings that will stop the bleeding between the fingers and between index finger and thumb.	**OR**	D.	☐ Place dressings that will not stick to the wound between the fingers and between index finger and thumb.
E.	☐ Cover the hand with sterile gauze squares.	**OR**	E.	☐ Cover the wound with many open triangular bandages.
F.	☐ Use a roller bandage to keep the covered hand on the padded splint.	**OR**	F.	☐ Use a narrow bandage to tie the hand to the padded splint.
G.	☐ Begin applying the roller bandage at the wrist.	**OR**	G.	☐ Begin applying the roller bandage at the fingers.
H.	☐ Support the splinted hand in a St. John tubular sling.	**OR**	H.	☐ Support the splinted hand in an arm sling.

11-12

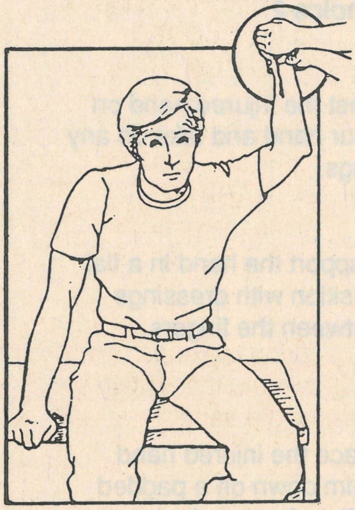
A.	B.	C.	D.	E.	F.	G.	H.
2	1	1	2	1	1	2	2

11-13

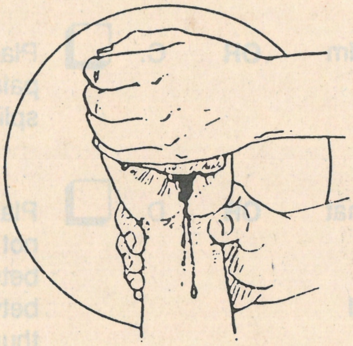
FIRST AID FOR A TRANSVERSE WOUND IN THE PALM OF THE HAND

A deep **WOUND IN THE PALM OF THE HAND** usually results in severe bleeding.

You should control bleeding from a wound across the palm of the hand (transverse wound) with **DIRECT PRESSURE**, **ELEVATION** and **REST**.



- **MAKE A FIST** and apply pressure to the wound; at the same time, **ELEVATE** the hand
- **SEAT** the casualty



- **PLACE A WAD** of gauze dressings over the wound and close the fingers around the wad to maintain pressure
- **ELEVATE** the hand again to a higher position

11-14

Which two of the following procedures should you use to control bleeding from a deep cut across the palm of a hand?

A. ☐ Close the hand tightly and elevate it while you place the casualty at rest.

B. ☐ Position the hand palm up on a flat surface and cover it with facial tissues.

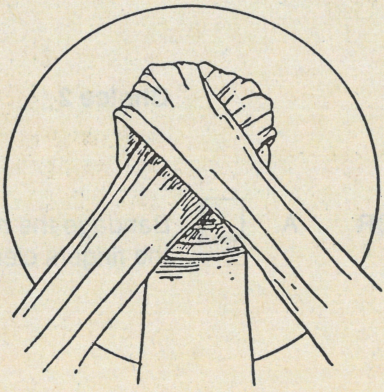
C. ☐ Cover the hand with a clean dressing and support it in an arm sling.

D. ☐ Clench the fingers tightly over a thick pad in the palm as you raise the hand to shoulder level.

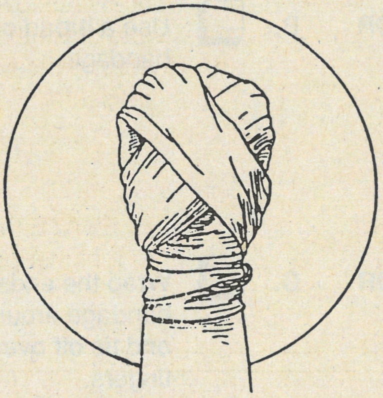
11-14

A. ☑ D. ☑

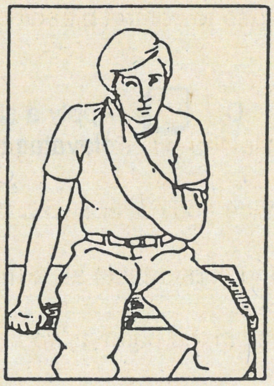
When you have controlled the severe bleeding from a wound across the palm of the hand, **APPLY A BANDAGE** to maintain pressure over the dressings -



- Bandage the hand in the **CLOSED POSITION**
- Place the mid-point of a **BROAD** or **NARROW** bandage on the **INSIDE** of the wrist
- Bring the ends around the **BACK** of the hand



- **CROSS** the ends over the fingers
- Tie off the bandage at the **WRIST**



- Support the bandaged hand and arm in a **ST JOHN TUBULAR SLING**

11-16

Which of the following bandaging techniques should you use for a transverse wound in the palm of the hand?

	Choice 1			Choice 2
A.	☐ Bandage the hand with the fingers straight.	OR	A.	☐ Bandage the hand with the fingers clenched.
B.	☐ Use a roller bandage.	OR	B.	☐ Use a broad or narrow bandage.
C.	☐ Cross the ends of the bandage over the fingers and tie off at the wrist.	OR	C.	☐ Wrap the ends of the bandage around the hand and tie off over the fingers.
D.	☐ Apply a sling that elevates the hand as high as possible.	OR	D.	☐ Apply a sling that elevates the hand slightly.

11-16

A. 2 B. 2 C. 1 D. 1

REVIEW: MODULE 11

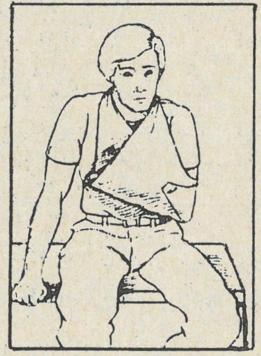
11-17

These questions are based on this workbook exercise, the practical session and the audio-visual.

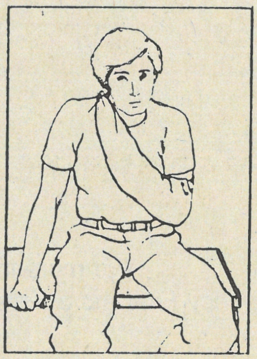
Shown below are two methods used to support and elevate an injured hand. Indicate the method you should use for each of the following conditions.

1. A transverse wound in the palm of the hand.
2. A crushed hand when medical assistance is delayed.

A. ☐



B. ☐



11-18

Mark each statement true **(T)** or false **(F)**.

A. ☐ Hand injuries may involve wounds, fractures and damage to other tissues.

B. ☐ Rings should be left on the fingers of a crushed hand to avoid causing further injury.

C. ☐ Many hand injuries can be prevented by adopting safe practices at work and at home.

D. ☐ A wound in the palm of the hand does not usually bleed heavily.

E. ☐ Because of the complicated structure of the hand, even minor injuries must be considered serious and receive medical attention.

11-17

A. 2 B. 1

11-18

A. T B. F C. T D. F E. T

For more information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapters 5, 8

END OF EXERCISE 11

Exercise 12 EYE INJURIES

You will have 12 minutes to complete this exercise (pages 12-1 to 12-14)

INTRODUCTION TO EYE INJURIES

12-1

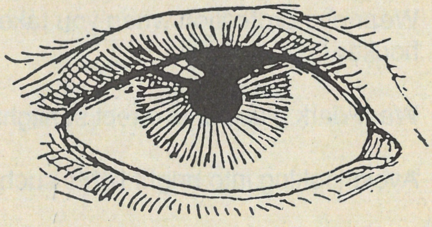
The **EYE** is the very delicate organ of sight.

Any injury to the eye may result in **IMPAIRED VISION or BLINDNESS.**

Movement of one eye causes movement of the other eye.

When an eye is injured, a person closes his eyes to reduce pain.

This person needs your help **IMMEDIATELY.**



External View of the Eye

YOUR QUICK RESPONSE AND CORRECT FIRST AID CAN PREVENT AN EYE INJURY FROM CAUSING PERMANENT DAMAGE

12-2

Mark each statement true **(T)** or false **(F)**.

A. ☐ A person with an eye injury tries to relieve the discomfort by holding the eye open.

B. ☐ Any eye injury may cause complete loss of sight.

C. ☐ A First Aider's fast action following an eye injury may save a casualty many hours of suffering.

D. ☐ Loss of vision caused by an injury can often be avoided by prompt first aid.

E. ☐ Each eye moves independently from the other.

12-2

A. F B. T C. T D. T E. F

12

12-3

EYE PROTECTION helps to prevent eye injuries.

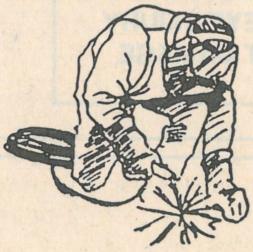
You should -

- Wear safety glasses or a face shield when you work with tools or dangerous chemicals
- Wear eye protection when you take part in sports such as squash, racquetball or hockey
- Wear dark glasses in direct sunlight or when the sun reflects from snow or water
- Avoid looking into bright lights such as an arc welding flash or an eclipse of the sun

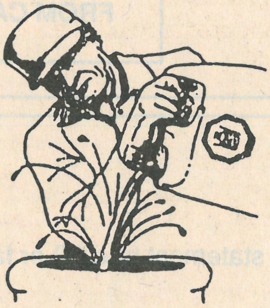
12-4

Which of the following illustrations show practices that would help to prevent eye injuries?

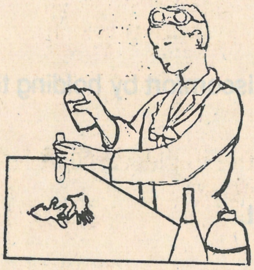
A. ☐



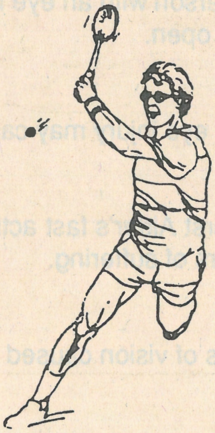
B. ☐



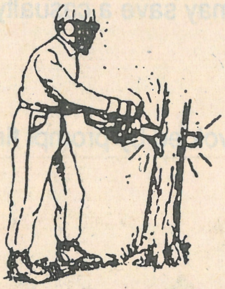
C. ☐



D. ☐



E. ☐



12-4

A. ☑ D. ☑ E. ☑

FIRST AID FOR FOREIGN OBJECTS EMBEDDED IN THE EYE

When a foreign object is **STUCK** to or **EMBEDDED** in the eyeball or in the soft tissue near the eye -

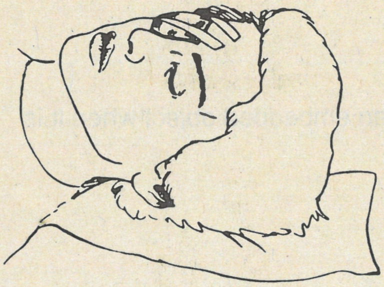
DO NOT ATTEMPT TO REMOVE IT

You should keep the casualty **LYING DOWN** and instruct him **NOT** to touch or rub the eye.

Use one of the following bandaging techniques depending on the size of the foreign object -

PARTICLE

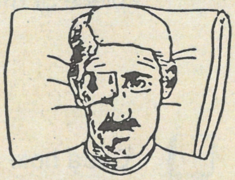
- Lay the casualty down
- **COVER** the **INJURED EYE** with an eye or gauze pad
- Tape it **LIGHTLY** in place (Do not put pressure on the eyeball.)



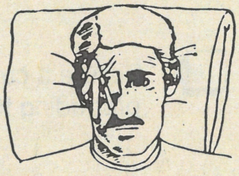
OR

LARGE FOREIGN OBJECT

- Lay the casualty down
- Cut a hole in a **DRESSING** and place it around the object

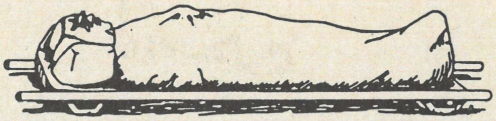


- Tape a **PAPER CUP** or **CONE** over the object to prevent movement



- Secure in place with a **NARROW BANDAGE**

In both cases, immobilize the head and transport the casualty on a stretcher to medical assistance.



12-6

Which of the following actions should you perform when giving first aid for an embedded object in the eye?

	Yes	No	
A.	☐	☐	Use a cotton applicator to lift out a particle embedded in the eyeball.
B.	☐	☐	Place the casualty in a sitting position before you begin bandaging.
C.	☐	☐	Secure a soft dressing loosely over the eye when there is a tiny piece of metal embedded in the eyeball.
D.	☐	☐	Cut a hole in a dressing before applying it over a 3 cm splinter protruding from an eyeball.
E.	☐	☐	Secure a cuplike covering over an embedded object when it is protruding from an eyeball.
F.	☐	☐	Place the casualty on a stretcher and support his head before taking him to medical assistance.

12-6

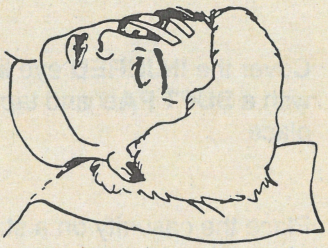
A. No B. No C. Yes D. Yes E. Yes F. Yes

12-7

FIRST AID FOR CONTUSIONS AND WOUNDS OF THE EYE

A **CONTUSION** (bruise) to the soft tissue around an eye is usually the result of a blow from a blunt object.
The bruise may not appear immediately but there may be underlying damage.

An **OPEN WOUND** in the eyelids or the soft tissue around the eye may bleed profusely.
To give first aid -



- Lay the casualty down
- Cover the **INJURED EYE** with an eye or gauze pad to avoid pressure on the eyeball
- Transport the casualty on a stretcher with his head immobilized to **MEDICAL ASSISTANCE**

IF THE EYELID IS INJURED, SUSPECT AN INJURY TO THE EYEBALL

12-8

Mark each statement true **(T)** or false **(F)**.

A. ☐ If an eyelid is bleeding, the eyeball may also be damaged.

B. ☐ A bruise around the eye involves bleeding into the tissues under the skin and requires medical attention.

C. ☐ A bruised eye should be bandaged tightly to stop internal bleeding.

D. ☐ When heavy bleeding from a wound on the eyelid is stopped,dressings should be left in place and the eye bandaged.

12-8

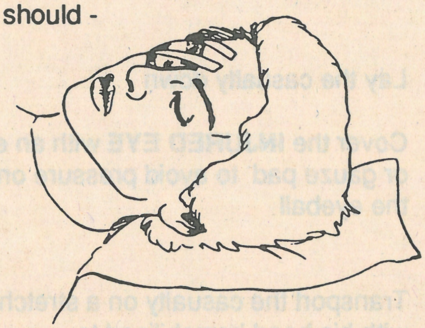
A. T B. T C. F D. T

12-9

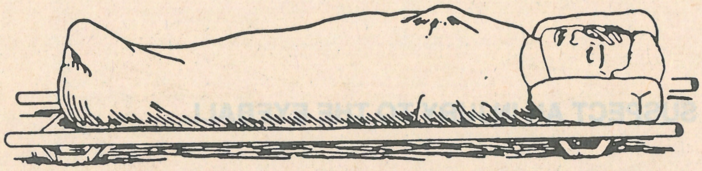
A **WOUND TO THE EYEBALL** is very serious.

DO NOT APPLY PRESSURE

You should -



- Lay the casualty down
- Cover the **INJURED** eye lightly with a **SOFT PAD** and tape it in place



- Place the casualty on a stretcher with a **SUPPORT** on each side of the head
- Transport quickly to **MEDICAL ASSISTANCE**

12-10

A boy has fallen on a sharp object resulting in a cut to the left eyeball.

An ambulance has been called.

What should you do while awaiting medical assistance?

A. ☐ Hold clean dressings tightly over the left eye.

B. ☐ Place the boy at rest and hold the eyelids of the left eye open.

C. ☐ Lay the boy down and secure soft dressings loosely over the eye.

12-10

C. ☑

12-11

FIRST AID FOR CHEMICAL BURNS TO THE EYE

CHEMICALS in the eyes cause **SERIOUS BURNS** in a very short time.

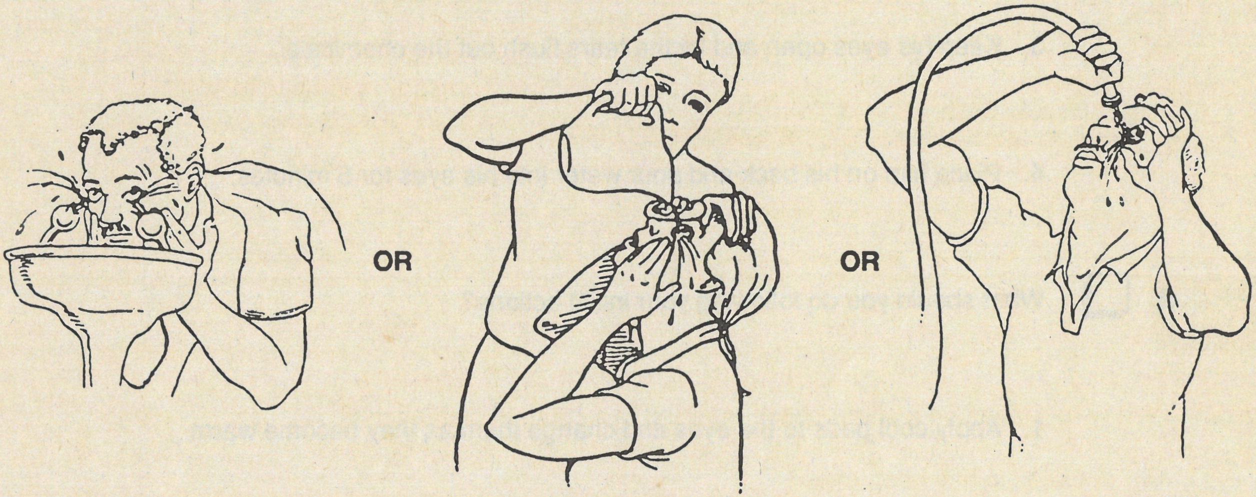
YOU MUST ACT QUICKLY

When a **LIQUID CHEMICAL** enters both eyes, you should -

- **FLUSH** the eyes **IMMEDIATELY** with running water, keeping the eyes **OPEN**

When only one eye is affected -

- **PROTECT** the **UNINJURED EYE**
- **FLUSH AWAY** from the uninjured eye to avoid contamination



Emergency Eye Washes

- **CONTINUE** flushing for **AT LEAST 10 MINUTES**
- **COVER THE INJURED EYE** with dressings
- When both eyes are affected, cover only the **MORE SERIOUSLY INJURED EYE**
- Obtain **MEDICAL ASSISTANCE** as soon as possible

12-12

One of your co-workers has spilled corrosive acid into his eyes. He is in pain and holding both eyes closed.

Select the correct answer for questions A and B and write the numbers in the space provided.

A. ☐ Which of the following actions should you take immediately?

1. Cover his eyes with dressings and take him to medical assistance.
2. Lead the casualty to a fountain, hold his eyes open and flush with water for 15 minutes.
3. Keep his eyes open and let the tears flush out the chemicals.
4. Place him on his back and pour water into his eyes for 5 minutes.

B. ☐ What should you do following your initial actions?

1. Apply cool pads to the eyes and change them as they become warm.
2. Keep both eyes uncovered and take the casualty to medical assistance quickly.
3. Lay the casualty down in a darkened room for at least one hour.
4. Secure gauze squares lightly over the more severely damaged eye and take the casualty to medical assistance.

12-12

A. 2 B. 4

12-13

If the chemical that enters the eye is a **DRY POWDER**, you should -

- **BRUSH** the chemical from around the eye with a clean, dry cloth
- **FLUSH** with water for **AT LEAST 10 MINUTES**
- **COVER THE INJURED EYE** with dressings
- Obtain **MEDICAL ASSISTANCE**

12-14

Corrosive lime powder has blown into a person's eyes.

Number the following first aid steps in the correct order of performance.

A. ☐ Guide the person to an eyewash fountain and wash his eyes for approximately 12 minutes.

B. ☐ Get the casualty to an emergency facility.

C. ☐ Quickly remove any loose powder from the face.

D. ☐ Tape gauze squares over the eye which is more seriously hurt.

12-14

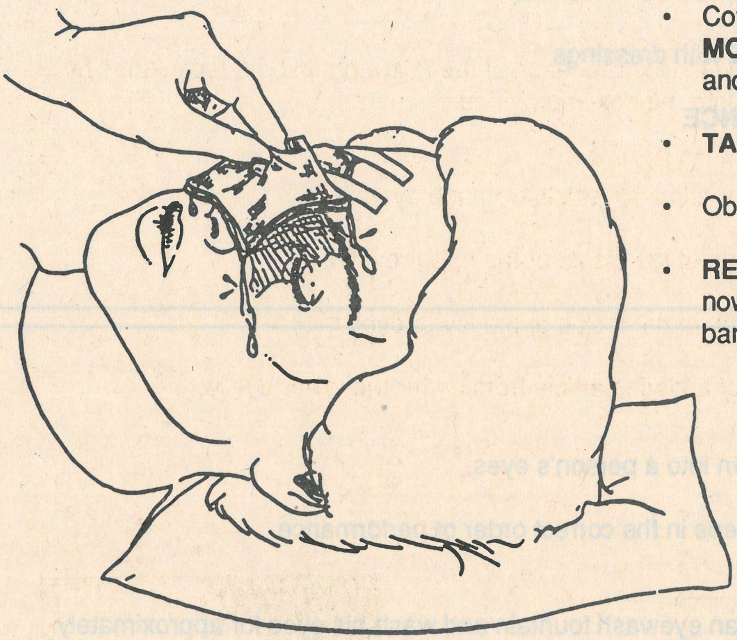
A. 2 B. 4 C. 1 D. 3

INTENSE LIGHT BURNS TO THE EYE

12-15

BURNS to the eye may be caused by **INTENSE LIGHT** such as direct or reflected sunlight, an arc welder's flash, infrared rays or laser beams.

When a casualty complains of burning in the eyes after exposure to bright, intense light, you should -



- Cover the eyes with **THICK MOIST PADS** to keep out light and cool the eyes
- **TAPE** the pads in place
- Obtain **MEDICAL ASSISTANCE**
- **REASSURE** the casualty as he is now blinded by the pads and the bandages.

PAIN MAY NOT OCCUR IMMEDIATELY

12-16

A welder suffers light burns to his eyes when his face shield is damaged.

What first aid should you give?

A. ☐ Apply dry sterile dressings and take the casualty to medical assistance.

B. ☐ Place the casualty at rest in a cool darkened room until the pain lessens.

C. ☐ Keep the eyes uncovered and allow the tears to cool them.

D. ☐ Secure cold compresses to the eyes and take the casualty to medical assistance.

12-16

D. ☑

12-17

These questions are based on this workbook exercise, the practical session and the audio-visual.

Choose one of the pictures below to illustrate each of the following first aid techniques by placing the appropriate number into the boxes provided.

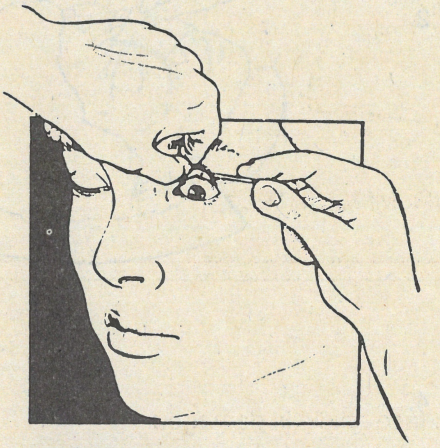
A. ☐ Removal of a loose particle from the eyeball.

B. ☐ Examination of the inside of the upper eyelid.

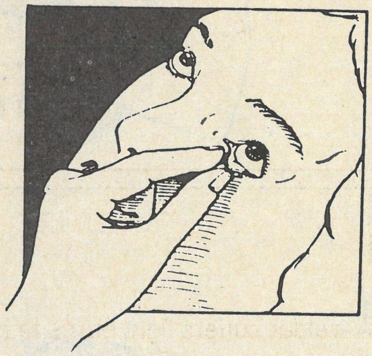
C. ☐ Examination of the inside of the lower eyelid.

D. ☐ Removal of a loose particle from under the lower eyelid.

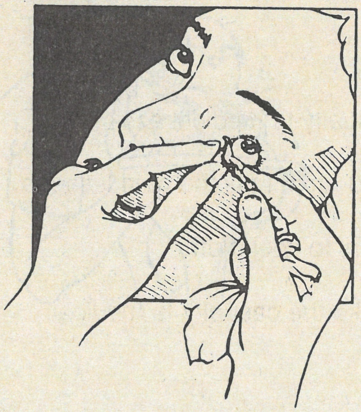
1.



2.



3.



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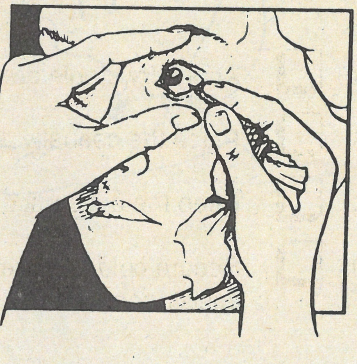


12-17

A. 4 B. 1 C. 2 D. 3

12-18

Match each of the following eye injuries with the illustration below that shows the correct first aid by placing the appropriate number into the boxes provided.

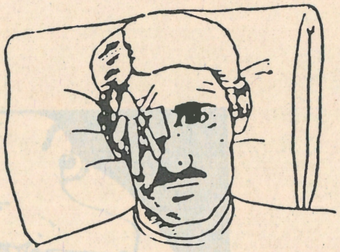
A. ☐ An open wound of the eyelid.

B. ☐ Liquid chemical in the eyes.

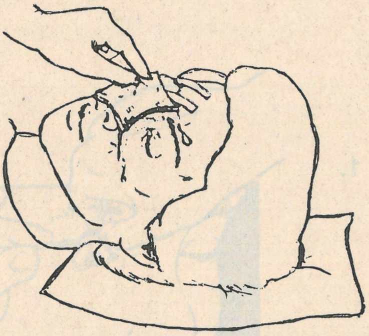
C. ☐ Foreign object embedded and protruding from the eye.

D. ☐ Intense light burns to the eyes.

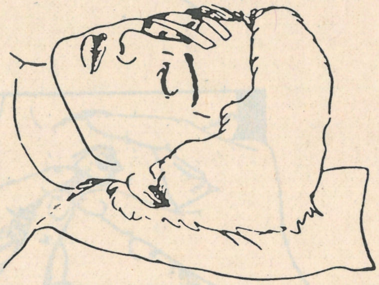
1.



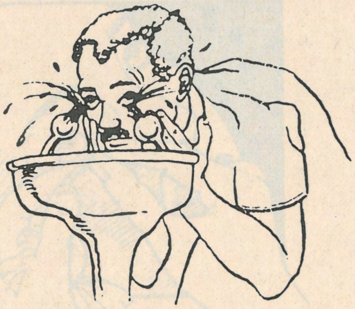
2.



3.



4.



12-18

A. 3 B. 4 C. 1 D. 2

For further information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapter 9

END OF EXERCISE 12

NOTES

Exercise 13 MULTIPLE INJURY MANAGEMENT

THERE IS NO WORKBOOK EXERCISE 13

For information on this topic, refer to.
Emergency First Aid Safety Oriented, First Edition (Revised), Chapters 1, 14

NOTES

Preserve

Prevent

Promote

CPR

PAA

Assess response

Assess breathing

Call for help

Open airway - Head tilt

Reassess breathing

2 Blows

Check pulse 15-10 seconds

Send for help

X Landmark

15 chest comp } 5 ~~breaths~~ times/min
2 ventilation }

Reassess Pulse
(after 1 min)

Exercise 14

ONE-RESCUER CPR

THERE IS NO WORKBOOK EXERCISE 14

For information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapter 8

NOTES

Exercise 15 PELVIC AND ABDOMINAL INJURIES

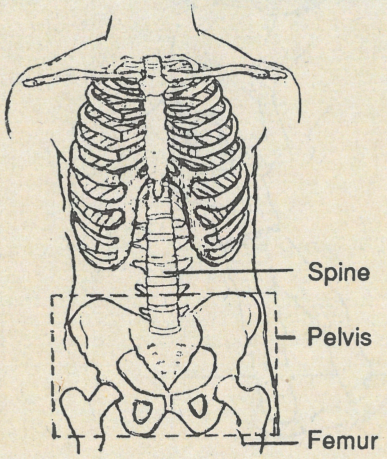
You will have 14 minutes to complete this exercise (pages 15-1 to 15-16)

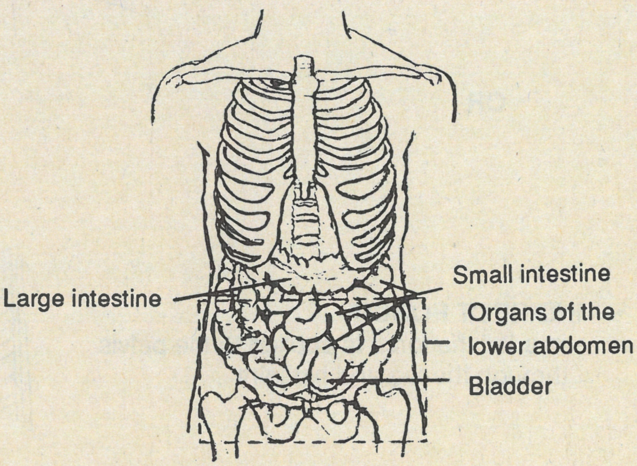
INTRODUCTION TO PELVIC INJURIES

15-1

The **PELVIS** is a basin-shaped bony structure formed by the two large wing-like hip bones and the base of the spine.

It is the connection between the upper body and the legs below.


Spine
Pelvis
Femur


Large intestine
Small intestine
Organs of the lower abdomen
Bladder

Important functions of the **PELVIS** are -

- To **SUPPORT** the organs of the lower abdomen
and
- To **PROTECT** these organs

15-2

Mark each statement true **(T)** or false **(F)**.

A. ☐ The pelvis is a bowl-shaped bony structure connected to the lower part of the backbone.

B. ☐ The pelvis is made up of two long, flat bones which are fused together.

C. ☐ The pelvic bones help to prevent injury to the soft tissues that they enclose.

D. ☐ The legs are attached to the pelvis at the hips.

15-2

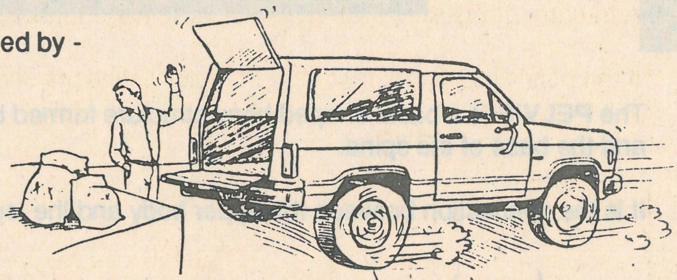
A. T B. F C. T D. T

PELVIC FRACTURES - CAUSES

15-3

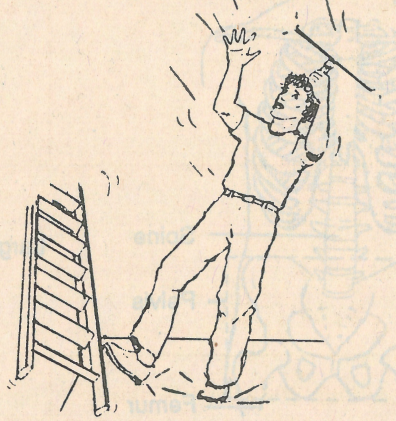
A **PELVIC FRACTURE** is any break or crack in the bones of the pelvis.

A fracture of the pelvis may be caused by -



- **DIRECT FORCE**
  - the pelvis is crushed by heavy impact

OR



- **INDIRECT FORCE**
  - in a fall the force is applied to the pelvis through the leg and hip joint

Even a simple fall on the pelvic area can result in a fracture, especially in the elderly.

15-4

Mark each statement true **(T)** or false **(F)**.

A. ☐ To suffer a broken pelvis, a person must receive a blow right on one of the pelvic bones.

B. ☐ The pelvis may be broken in a car accident when the knees strike the dashboard with great force.

C. ☐ The pelvis is a strong, thick structure which is rarely injured in people over 60 years of age.

D. ☐ A construction worker who has fallen from a scaffold and landed on his feet may have injured his pelvis.

15-4

A. F B. T C. F D. T

15-5

SIGNS AND SYMPTOMS OF A PELVIC FRACTURE

A fracture of the pelvis often results in damage to the **BLADDER** leading to serious infection.

If the pelvis has been fractured, the following signs and symptoms may be present -

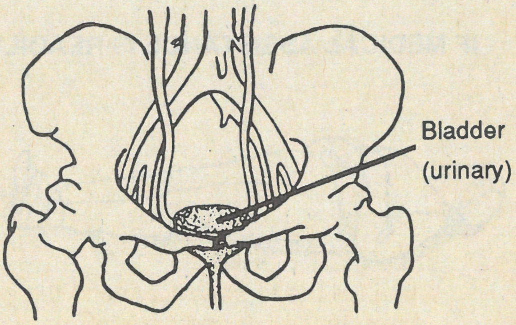
SIGNS

You may observe:

- Signs of shock
- Inability to stand or walk
- Inability to urinate

or

- Bloody urine



The Pelvis

SYMPTOMS

The casualty may complain of:

- Sharp pain in the pelvic area
- Pain in the lower back
- Increased pain on movement

15-6

Tick (✓) the conditions which may indicate a pelvic fracture.

A. ☐ Discomfort around the hips.

B. ☐ The passing of pinkish urine.

C. ☐ Pallor, sweating and a rapid pulse.

D. ☐ Fracture of the thighs.

E. ☐ Unable to move around.

15-6

A. ☑ B. ☑ C. ☑ E. ☑

FIRST AID FOR A PELVIC FRACTURE

A pelvic fracture should be treated as a **SERIOUS CONDITION.**

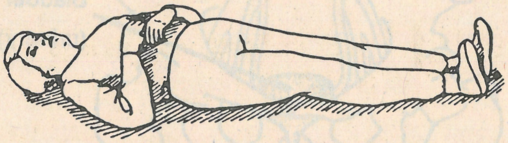
The first aid to be given depends on whether -

- Medical assistance is **READILY AVAILABLE**

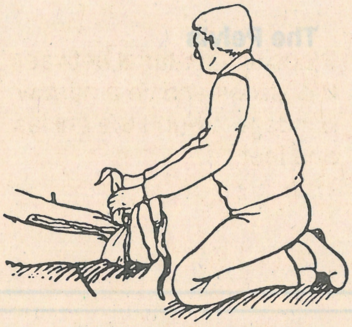
OR

- Medical assistance will be **DELAYED**

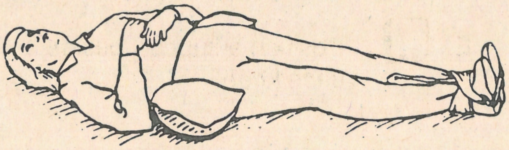
IF MEDICAL ASSISTANCE IS READILY AVAILABLE -



- **POSITION** the casualty comfortably (usually flat on his back) If the casualty wishes to bend his knees, place a support under them



- **PLACE** padding between the ankles
- **IMMOBILIZE** the feet with a figure-8 bandage
- If pain increases, **UNTIE** the bandage



- **SUPPORT** each side of the pelvis with suitable heavy objects, for example sandbags or books

DO NOT GIVE ANYTHING BY MOUTH

15-8

The history, signs and symptoms indicate that a casualty has fractured his pelvis. Medical assistance has been summoned and will arrive soon.

What should you do in the meantime?

		Choice 1				**Choice 2**
A.	☐	Place him in the recovery position.	**OR**	A.	☐	Place him face-up on a level surface.
B.	☐	Place pillows under his knees if he wants to bend them.	**OR**	B.	☐	Insist that he keeps his legs straight.
C.	☐	Place a splint between his legs and immobilize with padding and bandages.	**OR**	C.	☐	Place soft material between the ankles and tie a narrow bandage around the ankles and feet.
D.	☐	Encourage him to drink water to help him urinate.	**OR**	D.	☐	Give him nothing to eat or drink.
E.	☐	Position a support beside each hip.	**OR**	E.	☐	Position a support beside each knee.

15-8

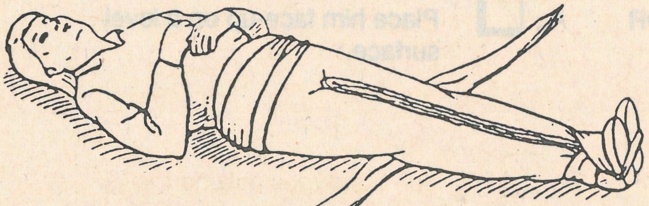
A. 2 **B.** 1 **C.** 2 **D.** 2 **E.** 1

15-9

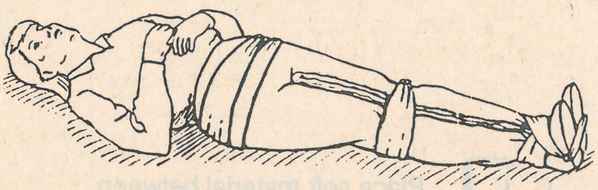
A casualty with a suspected pelvic fracture will require **MORE SUPPORT** when -

- Medical assistance will be **DELAYED**
- **A LONG OR ROUGH JOURNEY** to medical assistance is necessary

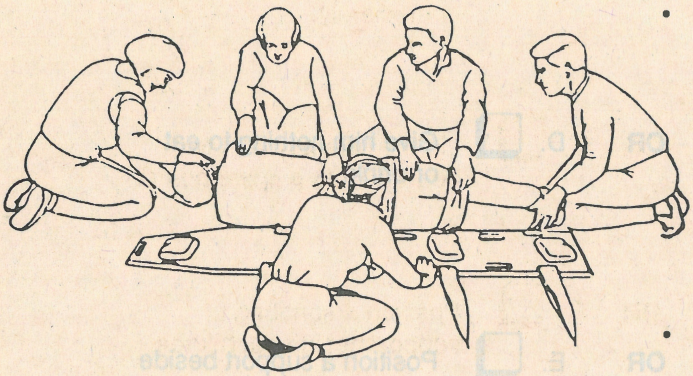
To give first aid in these situations -



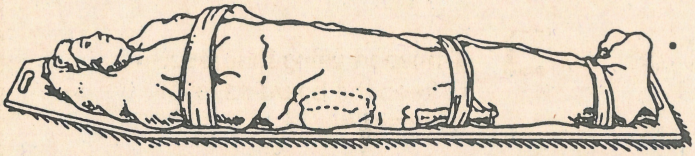
- Place **SOFT PADDING** between knees and ankles
- Tie a figure-8 bandage around **ANKLES AND FEET**
- Apply 2 **BROAD OVERLAPPING BANDAGES** around the pelvis with the wide parts on the injured side



- Apply a **BROAD BANDAGE** around the knees



- **LOGROLL** the casualty onto a long spine board with a minimum of four rescuers; the casualty being rolled toward the First Aiders and the uninjured side



- **SUPPORT EACH SIDE** of the pelvis with a suitable heavy object and **COVER** the casualty
- **TRANSPORT** with a minimum of four bearers

If the casualty complains of discomfort, **LOOSEN** or **REMOVE** bandages around the pelvis **IMMEDIATELY**.

15-10

Choose the correct first aid procedures to be used for a casualty with a pelvic fracture who must be transported a long distance over rough terrain.

	Choice 1			Choice 2
A. ☐	Place a splint between the legs before tying them together.	OR	A. ☐	Put towels between knees and ankles before tying the legs together.
B. ☐	Place bandages around the ankles, pelvis and knees.	OR	B. ☐	Place bandages around the chest, pelvis and knees.
C. ☐	Apply the widest part of the pelvic bandages to the injured side for extra support.	OR	C. ☐	Tie off the pelvic bandages on the injured side for extra support.
D. ☐	If bandages at the pelvis cause more pain, relieve the pain by tying them more tightly.	OR	D. ☐	If bandages at the pelvis cause more pain, relieve the pain by loosening them immediately.
E. ☐	Logroll the casualty with five bearers onto a spine board.	OR	E. ☐	Lift the casualty with two bearers onto a spine board.
F. ☐	Position a sandbag or support beside each hip .	OR	F. ☐	Position a sandbag or support beside each knee.
G. ☐	Transport using two rescuers for easier coordination of procedures.	OR	G. ☐	Transport using four rescuers to keep the board as level as possible.

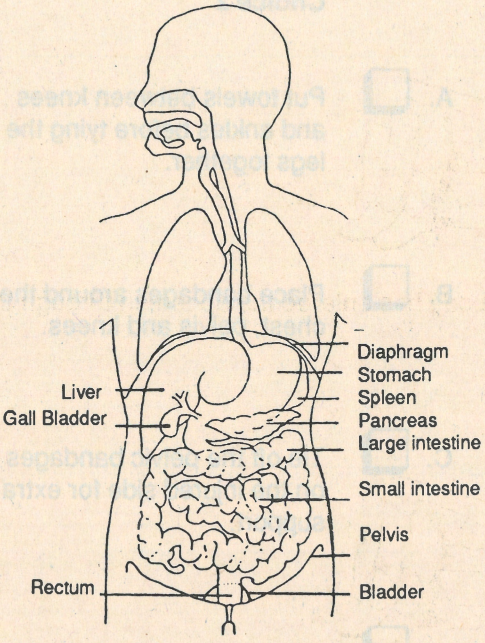
15-10

A. 2 B. 1 C. 1 D. 2 E. 1 F. 1 G. 2

15-11

The **ABDOMEN** is the body area below the chest.

The **ABDOMINAL CAVITY** is the space between the **DIAPHRAGM** and the lower part of the **PELVIS.** This cavity contains the **ABDOMINAL ORGANS.**


Diaphragm
Stomach
Spleen
Pancreas
Large intestine
Small intestine
Pelvis
Bladder
Liver
Gall Bladder
Rectum

Abdominal Cavity and its Contents

The individual organs of the abdominal cavity are indicated for general information and will not be questioned.

15-12

Mark each statement true **(T)** or false **(F)**.

A. ☐ The abdominal cavity is formed by the chest wall and the pelvic bones.

B. ☐ Many internal organs are located in the lower body cavity.

C. ☐ The abdomen and the chest are separated by the diaphragm.

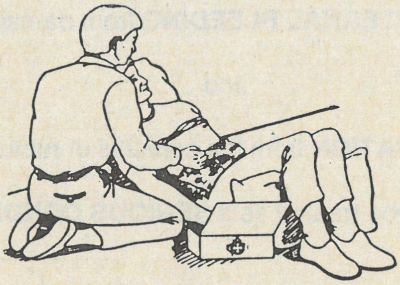
15-12

A. F B. T C. T

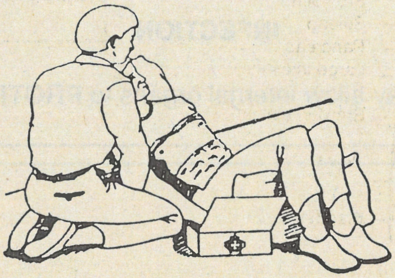
15-13

An injury to the **ABDOMEN** may be **CLOSED** or **OPEN**.

CLOSED INJURIES are those in which the abdomen is damaged by a severe blow but the skin remains intact.



OPEN INJURIES are those in which a foreign body has entered the abdomen through the abdominal wall and the skin has been broken.



Closed and open injuries to the abdomen may result in injuries to the internal organs.

15-14

Mark each statement true **(T)** or false **(F)**.

A. ☐ An abdominal injury without obvious bleeding is of little concern to the First Aider.

B. ☐ A gunshot wound of the abdomen is an open wound.

C. ☐ An open or closed wound to the abdomen may cause damage to the underlying tissues.

D. ☐ A deep, open wound to the abdomen usually will cause external as well as internal bleeding.

15-14

A. F B. T C. T D. T

15-15

It is difficult to determine the **EXTENT OF DAMAGE** caused by an abdominal injury.

There may be -

- **SEVERE INTERNAL BLEEDING** from damaged organs

and

- **CONTAMINATION** from the contents of ruptured organs

ANY abdominal wound should be treated as a **SERIOUS CONDITION** because of the danger of -

- **SHOCK**

and

- **INFECTION**

A gaping abdominal wound may allow internal organs to **PROTRUDE** outside the body.

15-16

Mark each statement true (T) or false (F).

A. ☐ Following a heavy blow to the abdomen, serious injury to underlying organs may not be obvious.

B. ☐ Any wound to the abdomen must be considered as life-threatening.

C. ☐ Bleeding from a closed abdominal wound can be seen immediately.

D. ☐ A serious infection may result when there is a spill from ruptured abdominal organs.

E. ☐ When the abdominal wall is opened by an injury, internal tissues may come out of the body cavity.

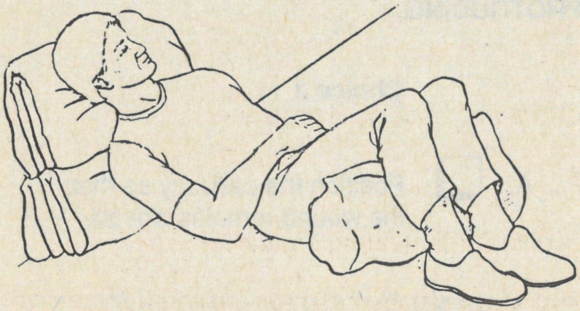
15-16

A. T B. T C. F D. T E. T

15-17

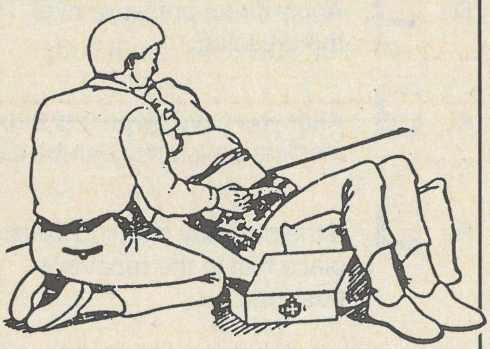
FIRST AID FOR ABDOMINAL WOUNDS

To give first aid for an **OPEN** abdominal wound -



- **PREVENT THE WOUND FROM OPENING WIDER;** usually by positioning the casualty with head and shoulders slightly raised and supported; and knees bent and supported
- **DO NOT** give anything by mouth

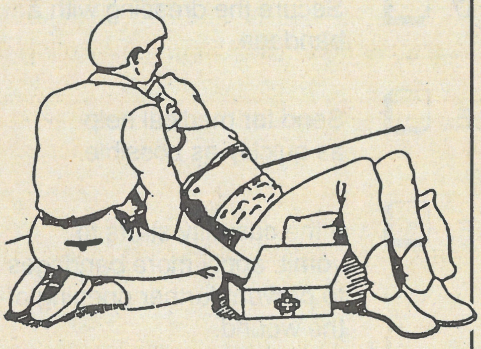
ORGANS NOT PROTRUDING



- Apply a **DRY DRESSING**
- Bandage **FIRMLY** over the dressing
- Obtain medical assistance **IMMEDIATELY**

OR

ORGANS PROTRUDING



- Do **NOT REPLACE ORGANS**
- Apply a **LARGE, MOIST DRESSING**
- Bandage **LOOSELY** over the dressing
- Obtain medical assistance **IMMEDIATELY**

If the casualty begins to cough **FORCEFULLY** or to **VOMIT**, apply **TWO BROAD BANDAGES** to support the abdomen. Bandages may have to be adjusted, for the casualty's comfort. Be alert and ready to act.

15-18

Choose the correct first aid procedures from the choices below for a conscious casualty with an open abdominal wound when organs are **NOT PROTRUDING**.

	Choice 1			**Choice 2**
A. ☐	Place the casualty in the recovery position with a support under his abdomen.	**OR**	A. ☐	Position the casualty so that the wound remains closed.
B. ☐	Give sips of water up to 250 ml.	**OR**	B. ☐	Give nothing to eat or drink.
C. ☐	Cover the wound with a dry gauze dressing.	**OR**	C. ☐	Cover the wound with a damp gauze dressing.
D. ☐	Secure the dressing with a bandage.	**OR**	D. ☐	Apply direct pressure over the dressing.
E. ☐	Send for medical help as quickly as possible.	**OR**	E. ☐	After you have given first aid, medical assistance can be delayed.
F. ☐	If the casualty starts to vomit, apply more bandages to prevent further opening of the wound.	**OR**	F. ☐	If the casualty starts to vomit, place him in the recovery position.

15-19

When organs are **PROTRUDING** through a wound in the abdomen, you should -

	Choice 1			**Choice 2**
A. ☐	Gently push the organs back into the abdomen.	**OR**	A. ☐	Make no attempt to push the organs back into the abdomen.
B. ☐	Cover the wound with a clean, damp cloth and bandage lightly.	**OR**	B. ☐	Cover the wound with a clean, dry cloth and bandage tightly.

15-18 A. 2 B. 2 C. 1 D. 1 E. 1 F. 1

15-19 A. 2 B. 1

15-20

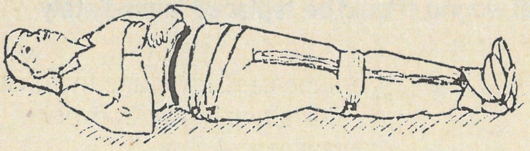
These questions are based on this workbook exercise, the practical session and the audio-visual.

Medical assistance is delayed for a casualty with a suspected pelvic fracture.

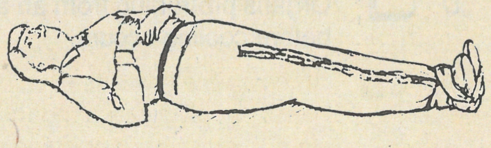
The following illustrations show the first aid techniques you should use to prevent the worsening of his condition.

Number the illustrations in the correct order of performance.

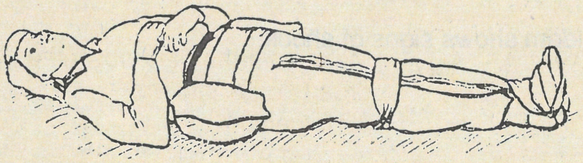
A. ☐



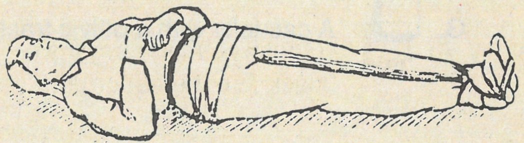
B. ☐



C. ☐



D. ☐



15-20

A. 3 B. 1 C. 4 D. 2

15-21

Mark each statement true (T) or false (F).

A. ☐ A blow to the abdomen may cause severe injuries without any visible signs of bleeding.

B. ☐ A heavy weight falling on the hips could fracture the pelvis and cause damage to internal organs.

C. ☐ A deep wound to the abdominal wall may allow organs to protrude through the opening.

D. ☐ Organs protruding from an abdominal wound should be replaced immediately before cooling occurs.

E. ☐ Bursting of the bladder can lead to contamination and serious infection.

F. ☐ A person with a suspected pelvic fracture should be transported on a stretcher.

G. ☐ A casualty with a pelvic fracture seldom shows signs of shock.

H. ☐ Damage to the organs of the abdomen may cause severe shock and infection.

15-21

A. T B. T C. T D. F E. T F. T G. F H. T

For further information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapters 5, 8

END OF EXERCISE 15

NOTES

Exercise 16 CHILD/INFANT RESUSCITATION

You will have 16 minutes to complete the exercise on Child Resuscitation
or 14 minutes to complete the exercise on Infant Resuscitation

16-1

CAUSES OF BREATHING EMERGENCIES

STOPPED BREATHING is the most common life-threatening situation in infancy and childhood.

Common causes of stopped breathing in the very young are -

- **AIRWAY OBSTRUCTION** (choking)
- **SMOKE INHALATION** and **BURNS**
- **NEAR-DROWNING**
- **SUFFOCATION**
- **STRANGULATION**
- **POISONING**
- **ELECTRIC SHOCK**

ANYONE, who at **ANYTIME** is entrusted with the care of a child should have the knowledge and skills to -

- **PREVENT** stopped breathing from occurring, when possible
- **RECOGNIZE** when breathing has stopped
- **ACT** immediately to restore breathing

16-2

Mark each statement true **(T)** or false **(F)**.

A. ☐ Parents, teachers and babysitters should be trained to handle respiratory emergencies.

B. ☐ Situations which result in interrupted breathing in babies and children are very rare.

C. ☐ A child who is not breathing must receive appropriate first aid immediately.

D. ☐ Many breathing emergencies are the result of an accident situation.

16-2

A. T B. F C. T D. T

16-3

When normal breathing is interrupted, a **BREATHING EMERGENCY** exists.

BRAIN DAMAGE may result after **4 minutes** of stopped breathing.

Soon the heart will **CEASE TO FUNCTION.**

BREATHING MUST BE RESTORED AS QUICKLY AS POSSIBLE

16-4

Tick (✓) the correct statements.

A. ☐ A breathing emergency occurs when an infant or child is unable to breathe for more than 4 minutes.

B. ☐ If an infant's brain does not receive oxygen even for a short time, its functioning may be permanently impaired.

C. ☐ A child who cannot breathe is in grave danger.

D. ☐ When breathing stops, an infant or a child should be allowed several minutes to begin breathing on their own.

16-4

B. ☑ C. ☑

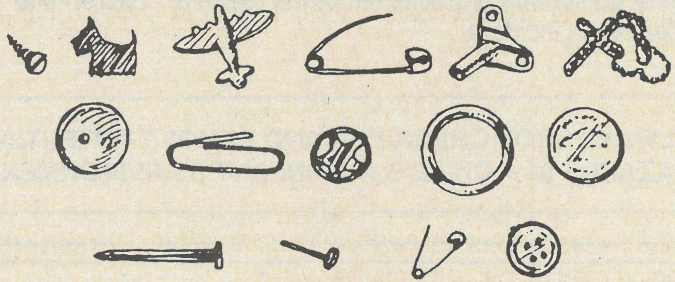
PREVENTION OF BREATHING EMERGENCIES

CHOKING is the most common breathing emergency. It occurs when the airway is blocked and air cannot enter the lungs.

CHOKING in **CHILDREN AND INFANTS** is usually caused by food or small objects. Each year many children die as a result of choking.

To prevent choking -

- **SUPERVISE** children when they are playing and eating
- Do not allow small children to **EAT UNSUITABLE FOODS** (e.g. nuts, popcorn, thickly spread peanut butter, hard sweets, ice cubes)
- **KEEP SMALL OBJECTS** out of a child's reach
- **CHOOSE CHILDREN'S TOYS** and **FURNITURE** that comply with SABS (South African Bureau of Standards) and manufacturer's recommendations for use
- **CHECK** toys and furniture for small **DETACHABLE PARTS**



Each of these items was responsible for a choking incident

16-6

Mark each statement true **(T)** or false **(F)**.

A. ☐ Hot dogs make good party food for preschoolers because they are soft and easy to chew.

B. ☐ All toys on the market have been tested and are safe for infants and small children.

C. ☐ Floors should be kept clear of small objects if there is a baby in the house.

D. ☐ A baby should not be given a teething biscuit to eat while alone in his crib.

E. ☐ An airway obstruction happens rarely in children and infants.

16-6

A. F B. F C. T D. T E. F

16-7

MOST BREATHING EMERGENCIES INVOLVING CHILDREN AND INFANTS CAN BE PREVENTED

For example:

- **STORE** matches and lighters in a safe place to prevent burns and smoke inhalation
- **KEEP** plastic bags away from children to prevent suffocation
- **ENROL** children in swimming lessons to prevent near-drowning
- **INSTRUCT** children on the dangers of electricity to prevent electric shock and electrocution
- **KEEP** potentially poisonous products out of the reach of children and infants to prevent a poisoning incident

ALWAYS SPOT-CHECK FOR AND REMOVE POTENTIAL HAZARDS IN A CHILD'S AND INFANT'S ENVIRONMENT

16-8

Tick (✓) the correct completions for the following statement. To prevent breathing emergencies in children and infants -

A. ☐ Install a smoke detector on each level of your home.

B. ☐ Remove doors of discarded, air-tight refrigerators.

C. ☐ Place hanging mobiles within reach of an infant's hand.

D. ☐ Close toilet seats when small children and infants visit your home.

E. ☐ Cover electrical outlets in the home.

F. ☐ Keep all medication in a locked cupboard.

16-8

A. ☑ **B.** ☑ **D.** ☑ **E.** ☑ **F.** ☑

VARIATIONS IN FIRST AID TECHNIQUES

16-9

The **PRINCIPLES of FIRST AID** are the same for all **BREATHING EMERGENCIES** regardless of the casualty's age.

TECHNIQUES, however, may vary depending on whether the casualty is considered -

- **AN INFANT**- under one year of age
- **A CHILD** - from one to eight years of age
- **AN ADULT**- over eight years of age

These three age groups are to be used in first aid as a **GUIDELINE** only.

Use **COMMON SENSE** in choosing the correct first aid techniques. Consider the **SIZE** and **BUILD** of each child or infant when making your decision.

16-10

For each of the casualties below and based on the age groups given above, indicate whether you would use the first aid techniques for an infant **(I)**, a child **(C)** or an adult **(A)** by placing one of the bracketed letters in the squares provided.

A. ☐ A tiny, delicate nine-year-old girl.

B. ☐ A tall, husky seven-year-old boy.

C. ☐ An average sized eight-month-old boy.

D. ☐ A small five-year-old girl.

STUDENTS PLEASE NOTE

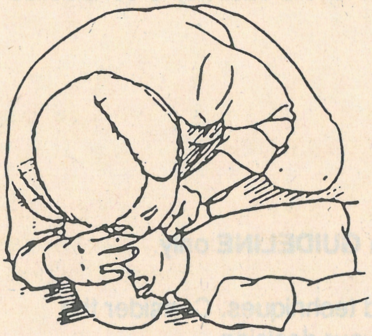
- If you are following the section on **CHILD RESUSCITATION**, continue with the workbook exercise to the end of page 16-16
- If you are following the section on **INFANT RESUSCITATION**, turn to page 16-17 and continue to the end of workbook exercise 16

16-10

A. C **B.** A **C.** I **D.** C

16-11

For a **CHILD**, the **MOUTH-TO-MOUTH METHOD** is used. Use the same techniques as for an adult, with the following modifications -



- **DO NOT** overextend the neck when opening the airway
- Use **LIGHT BREATHS** of air
- Give one breath **EVERY 4 SECONDS**

16-12

Mark each statement true (T) or false (F).

A. ☐ Beside age, the size of a child must be considered in choosing the method of artificial respiration that would be the most effective.

B. ☐ The rate of ventilations for a child should be about 15 breaths per minute.

C. ☐ When opening the airway, the head of a child should be tilted back slightly less than for an adult.

D. ☐ The amount of air being forced into the lungs of a child should be the same as for an adult.

16-12

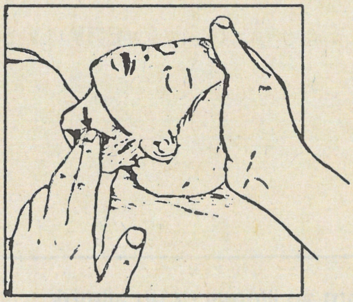
A. T B. T C. T D. F

16-13

THE PULSE - CHILD

To assess if the heart is beating and pumping blood to vital tissues, you must check the pulse when giving artificial respiration.

On a **CHILD**, check the **CAROTID PULSE** -



- Leave one hand on the forehead to keep the **AIRWAY OPEN**
- **LOCATE** the Adam's apple with 2 fingers, then slide them into the groove on the neck side closest to you. Press lightly until you feel the pulse beat.
- **TAKE** 5 to 10 seconds for the pulse check

PULSE RATES vary according to the **AGE** of the person.

The resting pulse rate of a healthy **CHILD** is **80** to **100** beats per minute.

16-14

Mark each statement true **(T)** or false **(F)**.

A. ☐ The pulse of a well child at rest is about 90 beats per minute.

B. ☐ The carotid pulse must be taken on the side of the casualty farthest away from the First Aider.

C. ☐ Pulse rates are the same in children and adults.

D. ☐ When taking the carotid pulse on a child during rescue breathing, maintain a free air passage.

E. ☐ A minimum of five seconds should be allowed for assessing the pulse.

16-14

A. T **B.** F **C.** F **D.** T **E.** T

16-15

When a child is choking, **YOU MAY OBSERVE** any of the signs seen in an adult depending on the **DEGREE OF OBSTRUCTION**. However, since a very young child cannot communicate like an adult.

START FIRST AID for choking **IMMEDIATELY** when you observe -

- The child choking on an object
- Weak, ineffective coughing
- Acute breathing difficulty
- High-pitched noises
- Bluish tinge to the skin
- Sudden inability to breathe, cough or speak
- Clutching the throat

When a child has breathing difficulties resulting from an illness or an allergic reaction, **GET MEDICAL ASSISTANCE URGENTLY. DO NOT WASTE TIME BY ATTEMPTING TO CLEAR THE AIRWAY** with first aid for choking

16-16

Which of these conditions might indicate that a child is choking?

A. ☐ A child is pale and sweating.

B. ☐ A child is whimpering and gagging at the dinner table.

C. ☐ A playing child is eating peanuts and suddenly cannot make any sound.

D. ☐ A child has a high temperature and respiratory problems.

E. ☐ A young child is staring wide-eyed with his hands on the front part of his neck.

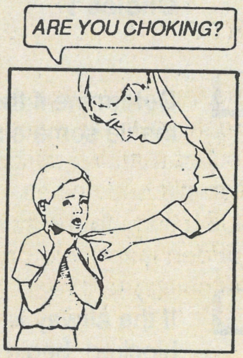
16-16

B. ☑ C. ☑ E. ☑

FIRST AID FOR CHOKING - CHILD

FIRST AID for choking in a child involves the same manoeuvres as for an adult. **HOWEVER**, care must be taken to avoid injuries to smaller casualties. Use **LESS FORCE** than for an adult casualty.

For a **CONSCIOUS CHOKING CHILD**, give first aid as follows -

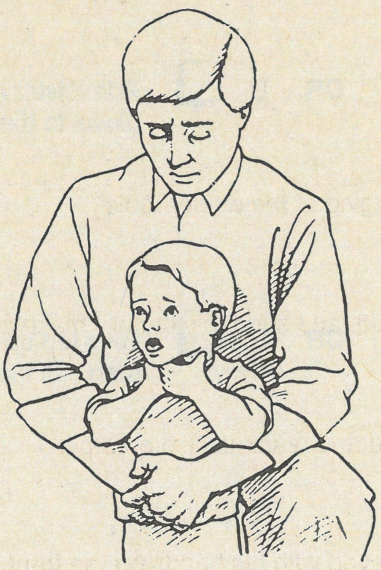

ARE YOU CHOKING?

- **ASSESS** the degree of obstruction
- **ASK**: "Are you choking?"

As long as the cough is forceful and the child can breathe, the airway is **PARTIALLY OBSTRUCTED** and he may be able to expel the object.

STAND BY AND ENCOURAGE COUGHING

If he **CANNOT** breathe, cough or speak, the airway is **COMPLETELY OBSTRUCTED**. Start the following procedures **IMMEDIATELY** -



- Stand behind the child
- Wrap your arms around the child's waist
- Locate the tip of the xiphoid process with one hand and the navel with the other
- Position your fist just above the navel, but well below the xiphoid process
- Grasp the fist with the other hand
- Give repeated, quick upward thrusts

CONTINUE UNTIL SUCCESSFUL OR UNTIL THE CHILD BECOMES UNCONSCIOUS

16-18

Choose the correct procedures for a conscious choking child.

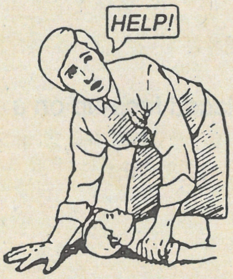
	Choice 1			Choice 2
A. ☐	Determine if the child can inhale some air.	OR	A. ☐	Determine what the child may have swallowed.
B. ☐	If the airway is almost blocked, begin back blows immediately.	OR	B. ☐	If the airway is almost blocked, tell the child to cough up the object.
C. ☐	If the airway is completely clogged, landmark the same way as for an adult just above the navel.	OR	C. ☐	If the airway is completely clogged, landmark by placing your hand in the middle of the breastbone.
D. ☐	Administer repeated upward pushes in the abdominal area.	OR	D. ☐	Administer repeated upward blows to the back.
E. ☐	Continue your efforts until the object is expelled or the casualty loses consciousness.	OR	E. ☐	Give ten upward pushes then call medical assistance.

16-18

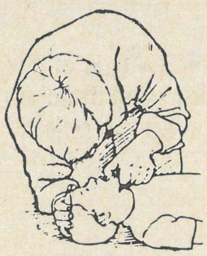
A.	B.	C.	D.	E.
1	2	1	1	1

16-19

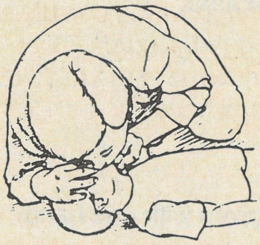
If a choking child **BECOMES UNCONSCIOUS** -



- **EASE** the child to the floor, on his back
- Call out **"HELP"** or send for help

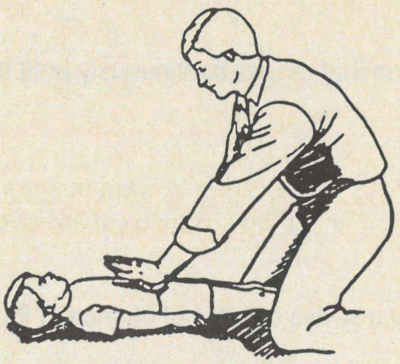


- **OPEN** the mouth using the tongue-jaw lift
- **CHECK** the mouth and remove any loose objects
- **DO NOT MAKE BLIND FINGER SWEEPS**



- **OPEN** the airway with the head tilt-chin lift method
- Attempt to **VENTILATE**

If the lungs do not inflate -



- **KNEEL** astride the child at his feet so that you can reach the upper abdomen with your hands
- **LANDMARK.** Place the heel of one hand just above the navel and well below the xiphoid process and the other hand on top, with fingers raised or interlocked
- **GIVE 6 to 10** distinct upward **ABDOMINAL THRUSTS**

REPEAT FOREIGN BODY CHECKS, ATTEMPTS TO VENTILATE AND ABDOMINAL THRUSTS UNTIL THE CHILD STARTS TO BREATHE AGAIN OR MEDICAL ASSISTANCE TAKES OVER

When giving first aid to a choking child who becomes unconscious, which of the following statements are true (T) or false (F)?

A. ☐ A choking child who becomes unconscious should be placed face-up on a hard surface.

B. ☐ Clear a child's mouth of a foreign body only if you see it.

C. ☐ Position yourself at the child's feet or astride the feet or legs so that your arms are straight when giving upward pushes into the stomach area.

D. ☐ Abdominal thrusts when administered to a child are given with one hand.

E. ☐ An unconscious child should receive abdominal thrusts continuously until he regains consciousness.

F. ☐ Attempt to ventilate before you administer a series of forceful pushes to the abdominal area of an unconscious child.

16-20

A. T B. T C. T D. F E. F F. T

FOLLOW-UP CARE - CHILD

16-21

When the obstruction has been cleared from the airway of a child, you should **ASSESS BREATHING** and give **ARTIFICIAL RESPIRATION** if necessary until breathing is restored.

Then proceed to -

- Monitor breathing closely
- Place the unconscious child in the recovery position and obtain medical assistance
- Take the conscious child to a medical facility as quickly as possible

A child must always receive medical care following **ABDOMINAL THRUSTS**

16-22

Tick (✓) the correct completions.

Abdominal thrusts have been administered to a choking child. The airway obstruction has been removed and breathing restored.

Following first aid, the casualty should -

A. ☐ Require no medical care.

B. ☐ Be checked by a doctor.

C. ☐ Be placed lying down with feet elevated.

D. ☐ Be watched to ensure continued breathing.

E. ☐ Be positioned to keep the airway open.

F. ☐ Eat nothing solid for 2 days.

16-22

B. ☑ **D.** ☑ **E.** ☑

INTRODUCTION TO CHILD CPR (CARDIOPULMONARY RESUSCITATION)

16-23

CPR is a combination of two basic life support techniques.

The two techniques consist of -

- **ARTIFICIAL RESPIRATION**

and

- **ARTIFICIAL CIRCULATION**

CPR is used to maintain the life of a casualty when -

- **BREATHING HAS STOPPED**

and the

- **HEART HAS STOPPED BEATING**

The **ABC's** of CPR are -

AIRWAY - open the airway

BREATHING - check for breathing; if absent begin artificial respiration

CIRCULATION - check the pulse; if absent start chest compressions

16-24

Mark each statement true **(T)** or false **(F)**.

A. ☐ The aim of CPR is to restore breathing and the heart beat.

B. ☐ If breathing has ceased and the pulse is absent, CPR should be started immediately.

C. ☐ The first step to restore breathing is to begin ventilations.

D. ☐ Rescue breathing is an essential part of CPR.

16-24

A. T B. T C. F D. T

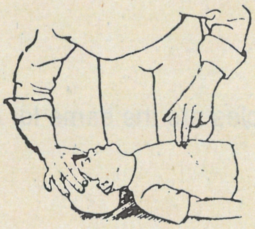
16-25

CPR TECHNIQUES - CHILD

You have practised CPR techniques for a CHILD and seen them performed on the audio-visual. From the illustrations and statements below choose and indicate (✓) the correct CPR procedures for a child.

Choice 1

A. ☐

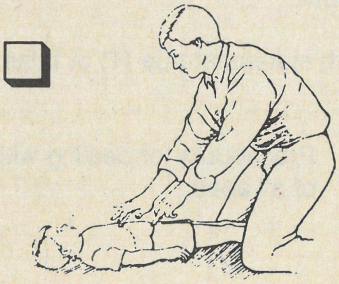


Landmark for chest compressions.

OR

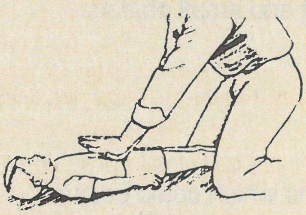
Choice 2

A. ☐



Landmark for chest compressions.

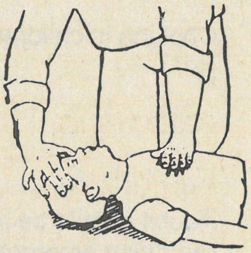
B. ☐



Give 5 compressions at a rate of 80 to 100 per minute.

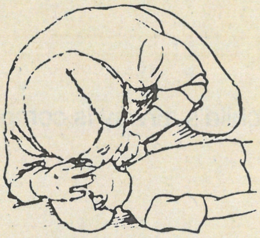
OR

B. ☐



Give 5 compressions at a rate of 80 to 100 per minute.

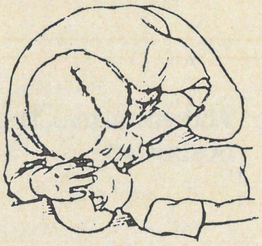
C. ☐



Give one light breath after every 5 compressions.

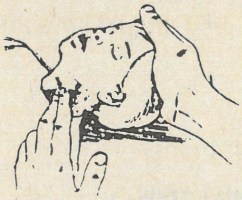
OR

C. ☐



Give two light breaths after every 5 compressions.

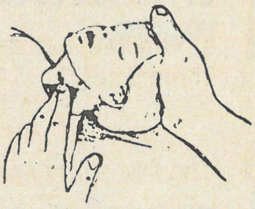
D. ☐



Reassess the pulse after one minute and every few minutes thereafter.

OR

D. ☐



Reassess the pulse after one minute and every minute thereafter.

16-25

A. 1 B. 2 C. 1 D. 1

16-26

These questions are based on this workbook exercise, your practical session and the audio-visual.

Mark each statement true **(T)** or false **(F)**.

A. ☐ Procedures for dealing with breathing emergencies are the same for casualties of all ages.

B. ☐ Choking in children is usually caused by food and small objects.

C. ☐ Adults should be alert for dangerous situations which could cause breathing emergencies in children.

D. ☐ Abdominal thrusts should be used only when a child's airway is completely obstructed.

E. ☐ CPR should be started only when the lungs are not functioning and there is no pulse.

F. ☐ Chest compressions for a child are given with both hands.

16-26

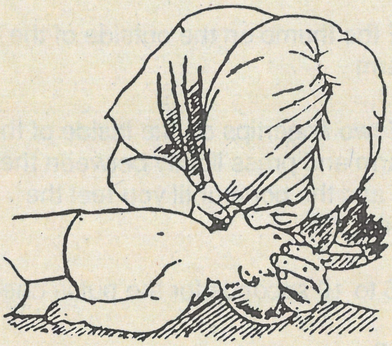
A.	B.	C.	D.	E.	F.
F	T	T	T	T	F

ARTIFICIAL RESPIRATION - INFANT

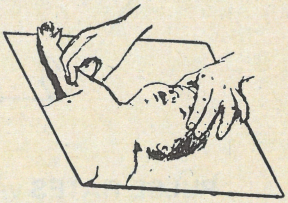
16-27

The **MOUTH-TO-MOUTH-AND-NOSE** method of artificial respiration is used for **INFANTS** and **SMALL OR DELICATE, YOUNG CHILDREN**

To use the **MOUTH-TO-MOUTH-AND-NOSE METHOD**, follow the same procedures as for the mouth-to-mouth method, with the following modifications -



- **DO NOT** overextend the head back when opening the airway
- Make a tight seal with your mouth over **THE MOUTH AND NOSE**
- Use **GENTLE PUFFS** of air
- Give one breath **EVERY 3 SECONDS**
- Check the **BRACHIAL PULSE**



16-28

Which of the following techniques are used when giving artificial respiration to an infant or small, young child?

	Choice 1			**Choice 2**
A. ☐	Take the pulse at the neck.	OR	A. ☐	Take the pulse at the inside of the upper arm.
B. ☐	Cover the mouth tightly.	OR	B. ☐	Cover the mouth and nose tightly.
C. ☐	Blow into the mouth and nose with light breaths.	OR	C. ☐	Blow into the mouth and nose with strong breaths.
D. ☐	Give ventilations at the same rate as for an adult.	OR	D. ☐	Give ventilations at a faster rate than for an adult.
E. ☐	When opening the airway, gently tilt the head back.	OR	E. ☐	When opening the airway, tilt the head back as far as possible.

16-28

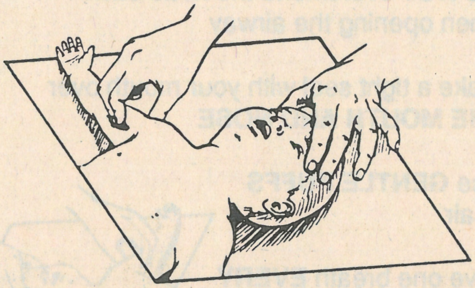
A. 2 B. 2 C. 1 D. 2 E. 1

THE PULSE - INFANT

16-29

To assess if the heart is beating and pumping blood to vital tissues, you must check the pulse when giving artificial respiration.

On an **INFANT**, check the **BRACHIAL PULSE** -



- Support the head to keep the **AIRWAY OPEN**
- **PLACE** the thumb on the outside of the upper arm
- **PLACE** two fingertips on the inside of the upper arm and press lightly between the muscle and the bone until you feel the pulse beat
- **TAKE** 5 to 10 seconds for the pulse check

PULSE RATES vary according to the **AGE** of the person.

The resting pulse rate of a healthy **INFANT** is **100** to **140** beats per minute

16-30

Mark each statement true **(T)** or false **(F)**.

A. ☐ When giving rescue breathing to an infant, you should take the brachial pulse.

B. ☐ When taking an infant's resting pulse, you would expect it to be faster than the resting pulse of an adult.

C. ☐ The brachial pulse is found in the neck.

D. ☐ To feel the brachial pulse, place two fingertips in the armpit..

E. ☐ Allow at least five seconds to assess the brachial pulse.

16-30

A. T **B.** T **C.** F **D.** F **E.** T

16-31

SIGNS OF CHOKING - INFANT

When an infant is choking, **YOU MAY OBSERVE** any of the signs seen in an adult depending on the **DEGREE OF OBSTRUCTION**. However, since an infant cannot communicate like an adult,

START FIRST AID for choking **IMMEDIATELY** when you observe -

- The infant choking on an object
- Weak, ineffective coughing
- Acute breathing difficulty
- High-pitched noises
- Bluish tinge to the skin
- Sudden inability to breathe, cough or cry

When an infant has breathing difficulties resulting from an illness or an allergic reaction, **GET MEDICAL ASSISTANCE URGENTLY. DO NOT WASTE TIME BY ATTEMPTING TO CLEAR THE AIRWAY** with first aid for a choking.

16-32

Which of these conditions might indicate that an infant is choking?

A. ☐ A baby is pale and sweating.

B. ☐ An infant is wheezing and gagging when eating.

C. ☐ A baby playing with small toys suddenly cannot make any sound.

D. ☐ A baby has a high temperature and has problems getting air into its lungs.

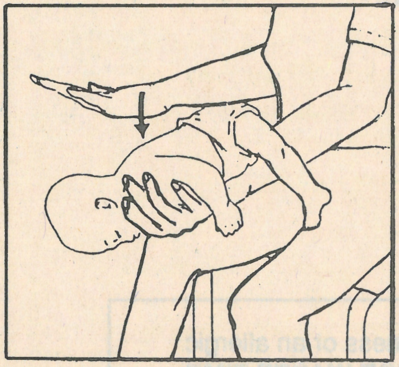
E. ☐ An infant makes harsh, shrill sounds while struggling to breathe.

16-32

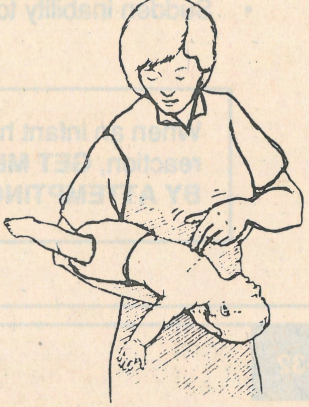
B. ✓ C. ✓ E. ✓

PRECAUTIONS IN FIRST AID FOR CHOKING - INFANT

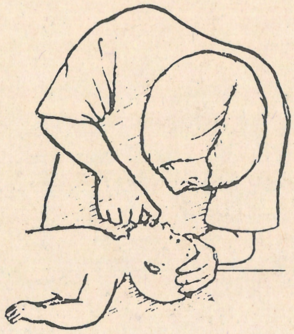
When an infant is choking, the following precautions in first aid procedures must be observed -



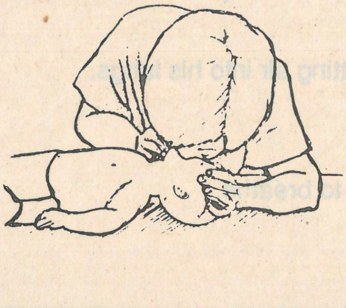
- Give **FOUR BACK BLOWS** using **LIGHT FORCE**
- Follow with **FOUR RAPID CHEST THRUSTS**



- **ALWAYS SUPPORT** the delicate **HEAD** and **NECK** when holding and turning the infant
- **NEVER USE ABDOMINAL THRUSTS** on an infant



- **CHECK THE MOUTH** using the tongue-jaw lift and remove **ONLY** loose objects that can be seen. **NEVER MAKE BLIND FINGER SWEEPS**



- **DON'T OVEREXTEND** the infant's neck when opening the airway
- **USE** only **GENTLE PUFFS** when you attempt to ventilate, even though the airway is blocked

16-34

Select and tick (✓) the precautions to be taken when giving first aid to a choking infant.

	Choice 1			Choice 2
A. ☐	When handling a choking infant, protect his fragile head and spine.	**OR**	A. ☐	When handling a choking infant, protect his tender arms and legs.
B. ☐	Give back blows and chest thrusts to remove the obstruction.	**OR**	B. ☐	Give abdominal pushes to remove the obstruction.
C. ☐	Clear the mouth with your fingers when you assume that the object has been dislodged.	**OR**	C. ☐	Clear the mouth with your fingers of any foreign material after you have seen it.
D. ☐	When opening the airway, tilt the head back as far as possible.	**OR**	D. ☐	When opening the airway, tilt the head back cautiously.
E. ☐	Try to blow with light puffs through the mouth and nose although the airway is obstructed.	**OR**	E. ☐	Try to blow with normal breaths through the mouth and nose to help remove the obstruction.

16-34

A.	B.	C.	D.	E.
1	1	2	2	1

16-35

When the obstruction has been cleared from the airway of an infant, you should **ASSESS BREATHING** and give **ARTIFICIAL RESPIRATION** if necessary until breathing is restored.

Then proceed to -

- Monitor breathing closely
- Ensure an open airway for the unconscious infant and obtain immediate medical assistance
- Take the conscious infant to a medical facility as quickly as possible

An infant must always receive medical care following **CHEST THRUSTS** and **BACK BLOWS**

16-36

Tick (✓) the correct completions.

Back blows and chest thrusts have been administered to a choking infant. The airway obstruction has been removed and breathing restored.

Following first aid, the infant should -

A. ☐ Require no medical care.

B. ☐ Be checked by a doctor as soon as possible.

C. ☐ Be placed lying down with feet elevated.

D. ☐ Be watched to ensure continued breathing.

E. ☐ Be positioned to keep the airway open.

F. ☐ Be given nothing solid to eat for 2 days.

16-36

B. ☑ D. ☑ E. ☑

16-37

INTRODUCTION TO INFANT CPR (CARDIOPULMONARY RESUSCITATION)

CPR is a combination of two basic life support techniques.

The two techniques consist of -

- **ARTIFICIAL RESPIRATION**

and

- **ARTIFICIAL CIRCULATION**

CPR is used to maintain the life of a casualty when -

- **BREATHING HAS STOPPED**

and the

- **HEART HAS STOPPED BEATING**

The **ABC's** of CPR are -

AIRWAY - open the airway

BREATHING - check for breathing; if absent begin artificial respiration

CIRCULATION - check the pulse; if absent start chest compressions

16-38

Mark each statement true **(T)** or false **(F)**.

A. ☐ The aim of CPR is to restore breathing and the heart beat.

B. ☐ If breathing has ceased and the pulse is absent, CPR should be started immediately.

C. ☐ The first step to restore breathing is to begin ventilations.

D. ☐ Rescue breathing is an essential part of CPR.

16-38

A. T B. T C. F D. T

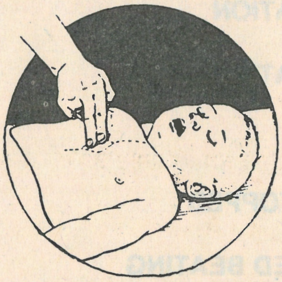
CPR TECHNIQUES - INFANT

You have practised CPR techniques for an infant and seen them performed on the audio-visual. From the illustrations and statements below choose and indicate (✓) the correct procedures for an infant.

Choice 1

Choice 2

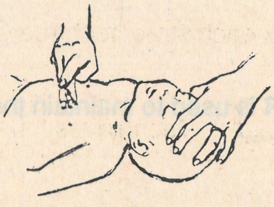
A. ☐



Landmark for chest compressions.

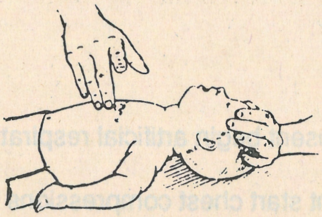
OR

A. ☐



Landmark for chest compressions.

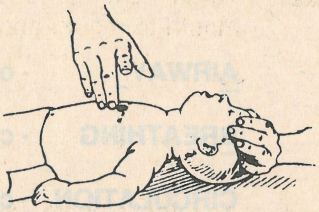
B. ☐



Give 5 compressions at a rate of at least 100 per minute.

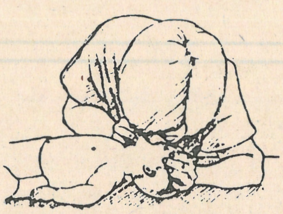
OR

B. ☐



Give 4 compressions at a rate of at least 80 per minute.

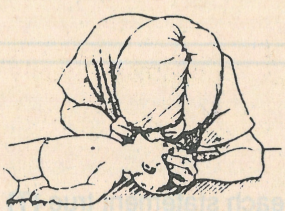
C. ☐



Give a puff of air after each 5 compressions.

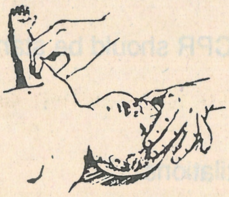
OR

C. ☐



Give two puffs of air after each 10 compressions.

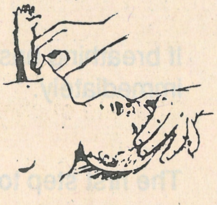
D. ☐



Reassess the pulse after one minute and every minute thereafter.

OR

D. ☐



Reassess the pulse after one minute and every few minutes thereafter.

16-39

A. 2 B. 1 C. 1 D. 2

16-40

These questions are based on this workbook exercise, your practical session and the audio-visual.

Mark each statement true **(T)** or false **(F)**.

A. ☐ Techniques for artificial respiration are the same for infants as for children.

B. ☐ To give artificial respiration to a tiny 18 month-old, you have to use the mouth-to-mouth-and-nose method.

C. ☐ An infant's pulse rate is slower than an adult's.

D. ☐ Abdominal thrusts should never be given to a choking infant.

E. ☐ Two fingertips are used to deliver chest thrusts to a choking infant.

F. ☐ The rate of chest compressions in CPR for an infant is faster than for an adult.

16-40

A. F B. T C. F D. T E. T F. T

For further information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapters 2, 3, 4 and
Standard First Aid Safety Oriented , First Edition, Chapters 5, 7, 8, 9

END OF EXERCISE 16

Exercise 17 ENVIRONMENTAL ILLNESSES AND INJURIES

You will have 18 minutes to complete this exercise (pages 17-1 to 17-20)

17-1

INTRODUCTION TO ENVIRONMENTAL ILLNESSES AND INJURIES

The human body normally maintains a temperature of about **37°C**.

The body has mechanisms, such as sweating and shivering, that help to keep its temperature **CONSTANT**.

- Sweating helps to keep the body cool
- Shivering assists the body to stay warm

However, when the body is subjected **SUDDENLY** or for a **LONG TIME** to very hot or very cold temperatures, its temperature control system may break down causing **HEAT ILLNESSES** or **COLD INJURIES**.

17-2

Mark the following statements true **(T)** or false **(F)**.

A. ☐ Body temperature of 38° C can still be considered normal.

B. ☐ The body is able to regulate its temperature when environmental conditions are not too severe.

C. ☐ Exposure to extremes of temperature for extended periods is unlikely to cause a person any harm.

D. ☐ Perspiring helps to keep the body from getting too hot.

E. ☐ Trembling of the body is nature's way of trying to keep a person warm.

17-2

A. F B. T C. F D. T E. T

17-3

Exposure to cold may result in -

- **FROSTBITE** - a localized freezing of a part of the body
- **HYPOTHERMIA** - a generalized cooling of the entire body

The risk of frostbite or hypothermia is increased when -

- You are **EXPOSED** to very low temperatures and strong winds
- Your clothing is **WET** (for example from sweating or if you are immersed in water)
- You are **ALONE** and **EXPOSED** to the cold for **LONG PERIODS OF TIME**
- Your clothing does not keep in **YOUR BODY HEAT**
- You are in a **WEAKENED CONDITION** because of lack of food, fatigue, intoxication or illness
- You are **ELDERLY** or **VERY YOUNG**

17-4

TO PREVENT COLD INJURIES -

- **STAY WARM** - wear several layers of loose-fitting clothing, preferably of wool
  - keep the head and neck covered
- **STAY DRY** - avoid getting wet, even by sweating
- **EAT WELL** - eat high energy foods at regular intervals
- **STAY SAFE** - limit the time spent in the cold
  - stay with a partner so you can check each other for signs of cold injuries
- **AVOID USE OF TOBACCO AND ALCOHOL** - these contribute to cold injuries by affecting blood circulation

17-5

Listed below are dangerous situations that could result in cold injuries.

Match each situation with a safety practice that could prevent cold injury.

	Dangerous Situations		Safety Practices
A. ☐	Poor nourishment.	1.	Wear warm clothing and protect your head, hands and feet.
B. ☐	Weakened condition	2.	Eat foods such as chocolate, nuts or raisins frequently when you are in the cold.
C. ☐	Poor clothing.	3.	Carry an extra pair of woollen socks so you can keep your feet dry.
D ☐	Long exposure.	4.	Avoid overtiredness and abstain from taking alcoholic drinks when you are in the cold.
E. ☐	Wet clothing.	5.	Use the "buddy system" to ensure safety in the cold.
F. ☐	No partner.	6.	Stay outside for only short periods of time when the temperature is very low.

17-5

A. 2 B. 4 C. 1 D. 6 E. 3 F. 5

17-6

SIGNS AND SYMPTOMS OF FROSTBITE

FROSTBITE may be -

- **SUPERFICIAL** - when it affects only the surface of the skin

OR

- **DEEP** - when it affects the skin and underlying tissues

SUPERFICIAL FROSTBITE usually affects ears, face, fingers and toes.

Watch for any of the following signs and symptoms -

SIGNS	**SYMPTOMS**
You may observe: • Whitish or greyish skin • Skin firm to the touch	The casualty may complain of: • Numbness in the affected area

Superficial frostbite may develop into **DEEP FROSTBITE**.

DEEP FROSTBITE is far more serious. It usually involves an entire hand or foot. It may be recognized by these signs and symptoms -

SIGNS	**SYMPTOMS**
You may observe: • Whitish or greyish, waxy skin • Skin feels cold and hard	The casualty may complain of: • Lack of feeling in affected area

17-7

Indicate with the appropriate number whether a person with the following signs and symptoms may be suffering from -

1. **SUPERFICIAL FROSTBITE**
2. **DEEP FROSTBITE**

A. ☐ A spot on the cheek is pale and does not feel as soft as the rest of the cheek.

B ☐ A foot is pale and shiny looking. The casualty says he cannot feel the foot when he places it on the ground.

C. ☐ One ear is whitish or greyish and the casualty complains of a dull feeling in the ear lobe.

D. ☐ The tips of the fingers of one hand are colourless and cold. The surface of the skin feels firm but you can feel soft tissue underneath.

E. ☐ There is no reaction when you touch the casualty's hand. The skin feels cold and very firm and looks shiny.

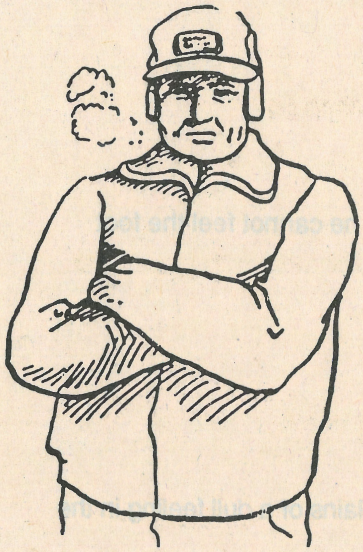
17-7

A. 1 B. 2 C. 1 D. 1 E. 2

FIRST AID FOR FROSTBITE

When **FROSTBITE** is **SUPERFICIAL** -

- **REWARM** the frostbitten part **GRADUALLY** with the heat of your body
- **DO NOT** rub or put snow on a frostbitten part



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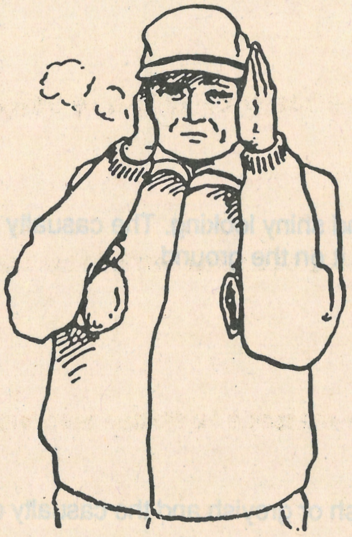

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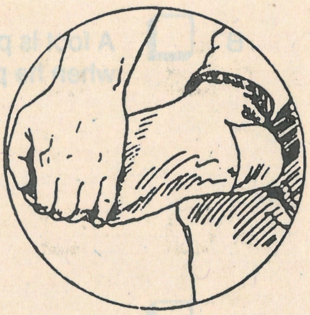


A casualty with **DEEP FROSTBITE** requires medical attention -

- **DO NOT THAW** the frozen part
- **TRANSPORT** him by stretcher

If the casualty must walk to medical assistance -

- **DO NOT THAW THE FROZEN PART**
  (Walking on a frozen foot is not likely to cause more serious damage.)
- **ASSIST** the casualty to make walking easier

TREAT the frozen part **GENTLY** to **PREVENT FURTHER TISSUE DAMAGE**

17-9

Which of the following actions are correct first aid for frostbite?

	Yes	No	
A.	☐	☐	Place your frostbitten hands in your armpits to warm them.
B.	☐	☐	Warm a frozen foot quickly by using a heating pad.
C.	☐	☐	If your ears become numb in the cold, cover them with your hands.
D.	☐	☐	Briskly massage frostbitten toes with your hands.
E.	☐	☐	Hold a handful of soft snow against a frostbitten cheek.
F.	☐	☐	Carry a casualty with a frozen leg to the nearest medical facility, if possible.
G.	☐	☐	If a casualty with a severely frostbitten foot cannot be carried to medical assistance, rewarm his foot and help him to walk.
H.	☐	☐	Handle the casualty with a frozen foot with care to avoid aggravating his injury.

17-9

A. Yes B. No C. Yes D. No E. No F. Yes G. No H. Yes

17-10

Thawing of a frozen body part will cause pain and should **ONLY** be attempted when -

- Medical assistance is **NOT** available
- The casualty is in a **WARM, SAFE** environment
- There is **NO** danger of refreezing

If you **MUST** thaw a frozen part, you should -

- Place the frozen part in **WARM WATER** at 40°C (104°F) until tissues become soft to the touch. Warmer water will cause extreme pain
- **DRY** the injured part and apply clean dressings to any damaged skin
- **COVER** the injured part lightly
- Keep the casualty **WARM** and **MONITOR** his condition

17-11

Your friend has severe frostbite of both hands and forearms. You are in a remote region and cut off from medical assistance.

Which of the following procedures should you carry out?

	Yes	No	
A.	☐	☐	Rub his hands and arms briskly.
B.	☐	☐	Place the frostbitten areas under a fast-running cold-water tap.
C.	☐	☐	Soak his hands and arms in a tub of warm water at a temperature of 40°C.
D.	☐	☐	When you have thawed his hands and arms, cover any blisters or wounds with sterile gauze.
E.	☐	☐	Leave his hands and arms exposed to the air for rewarming.
F.	☐	☐	Watch him carefully and make sure he does not become cold again.

17-11

A. No B. No C. Yes D. Yes E. No F. Yes

17-12

HEAT CRAMPS, HEAT EXHAUSTION and **HEATSTROKE** are heat illnesses that are caused by -

- **LONG EXPOSURE** to hot conditions
- **OVEREXPOSURE** to the sun
- **LACK OF FLUIDS** to replace lost body fluids
- **VIGOROUS EXERCISE** or hard labour in a hot environment

To prevent heat illnesses, you should -

- Expose the body **GRADUALLY** to a hot environment
- Protect the **HEAD** from direct sunshine
- Drink **SUFFICIENT WATER** to replace body fluids lost from sweating
- Avoid **LONG PERIODS** of work or exercise in a hot environment

17-13

Which of the following precautions would help you to avoid illness from exposure to heat?

	Yes	No	
A.	☐	☐	Take drinks to prevent your body from drying out when you are working in the heat.
B.	☐	☐	Avoid wearing a hat on a hot sunny day to allow excess body heat to be lost through the head.
C.	☐	☐	If you are not used to a hot climate or workplace, stay in the heat for only a short time.
D.	☐	☐	Take frequent breaks and sit in a cool place when you are working or playing on a hot day.

17-13

A. Yes B. No C. Yes D. Yes

17-14

SIGNS AND SYMPTOMS OF HEAT CRAMPS

Either or both of the following signs and symptoms may indicate that a person has **HEAT CRAMPS** -

SIGNS

You may observe:

- Excessive sweating

SYMPTOMS

The casualty may complain of:

- Painful muscle spasms in the limbs and abdomen

17-15

Which of the following signs and symptoms would help you to assess a casualty's condition as heat cramps?

A. ☐ Very moist skin.

B. ☐ Loss of feeling in the limbs and lower body.

C. ☐ Very dry skin.

D. ☐ Great discomfort and tightening of the muscles of the arms and legs.

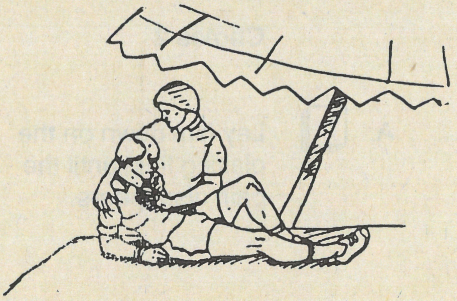
17-15

A. ☑ D. ☑

17-16

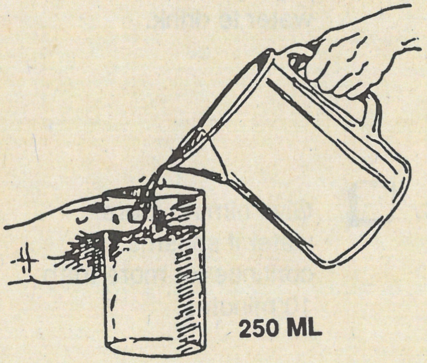
FIRST AID FOR HEAT CRAMPS

When a person is suffering from heat cramps, you should -

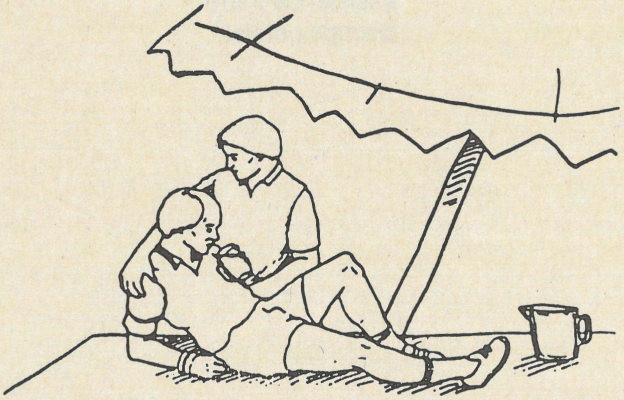


- Place him at rest **IN A COOL PLACE**

- Give him 250mL of water to drink



- Give ONE MORE glass of water in **10 MINUTES**



- Obtain medical assistance if muscle pains continue

17-17

A man who is playing soccer on a hot day complains of pain in his legs and arms.

Which of the following should you do?

	Choice 1			Choice 2
A. ☐	Lay him down in the shade of a tree.	**OR**	A. ☐	Lay him down on the playing field until the pain disappears.
B. ☐	Give him 250 mL of cool water to drink.	**OR**	B. ☐	Give him 250 mL of slightly salted hot water to drink.
C. ☐	Give him a second glass of water if spasms continue for more than 10 minutes.	**OR**	C. ☐	Give him no more water if spasms continue for more than 10 minutes.
D. ☐	Give him something to eat if the cramps persist.	**OR**	D. ☐	Take him to medical assistance if the cramps persist.

17-17

A.	B.	C.	D.
1	1	1	2

SIGNS AND SYMPTOMS OF HEAT EXHAUSTION

17-18

HEAT EXHAUSTION is a more serious heat illness than heat cramps.

Any or all of the following signs and symptoms may indicate that a casualty is suffering from heat exhaustion.

SIGNS

You may observe:

- Excessive sweating
- Cold, clammy, pale skin
- Weak and rapid pulse
- Restlessness
- Rapid, shallow breathing
- Vomiting
- Unconsciousness

SYMPTOMS

The casualty may complain of:

- Blurred vision
- Dizziness
- Headache
- Nausea
- Painful muscle cramps in arms, legs and abdomen

17-19

When a casualty is suffering from heat exhaustion, which of the following signs and symptoms may be present?

A. ☐ His skin is pale, cool and damp.

B. ☐ His pulse and breathing are very slow.

C. ☐ He tells you that he cannot see clearly, has a sore head and he feels sick to his stomach.

D. ☐ He has difficulty walking because his legs hurt.

E. ☐ He collapses and does not respond.

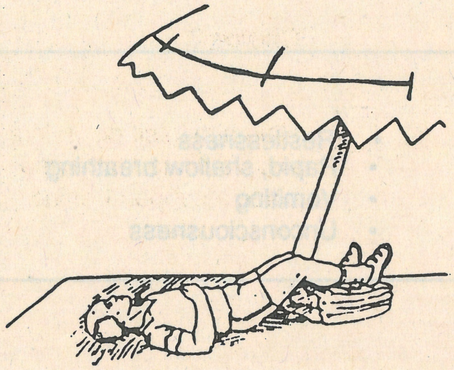
17-19

A. ☑ C. ☑ D. ☑ E. ☑

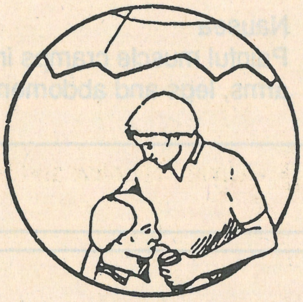
FIRST AID FOR HEAT EXHAUSTION

The first aid for heat exhaustion is a combination of the first aid for heat cramps and shock.

If the casualty is **FULLY CONSCIOUS** -

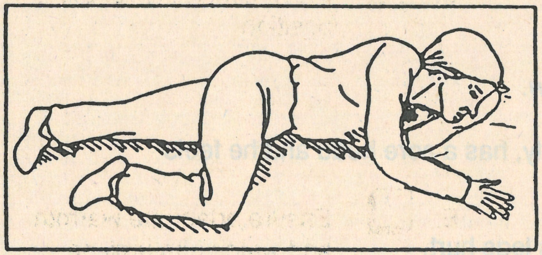


- Place him at rest **IN A COOL PLACE**, with feet and legs **ELEVATED**
- **LOOSEN TIGHT CLOTHING** at neck and waist, and remove excessive clothing



- Give **WATER** to drink, as much as the casualty will take

If casualty becomes **UNCONSCIOUS** -



- Place him in the **RECOVERY POSITION**
- Monitor **BREATHING** and give artificial respiration, if necessary
- Obtain medical assistance

17-21

A man working in a hot assembly plant complains of muscle spasms and is beginning to show signs of shock.

If he is fully conscious, you should -

	Choice 1			Choice 2
A. ☐	Help him to lie down in a well ventilated area and place a support under his ankles and legs.	OR	A. ☐	Help him to sit down in a well ventilated area and place a support behind his shoulders.
B. ☐	Give him nothing to eat or drink so that he will not feel ill.	OR	B. ☐	Give him as much water as he will drink.
C. ☐	Ensure his clothing is snug and warm.	OR	C. ☐	Untie his collar and belt.

If the man loses consciousness, you should -

D. ☐	Place him on his back.	OR	D. ☐	Place him in the recovery position.
E. ☐	Ensure adequate breathing and send someone for medical assistance.	OR	E. ☐	Ensure adequate warmth and watch him until he comes to.

17-21

A.	B.	C.	D.	E.
1	2	2	2	1

17-22

SIGNS AND SYMPTOMS OF HEATSTROKE

HEATSTROKE is **LIFE-THREATENING** and is far more serious than heat cramps or heat exhaustion. The following signs and symptoms may indicate heatstroke -

SIGNS

You may observe:

- Body temperature as high as 44˚C
- Rapid and full pulse, becoming weaker in later stages
- Flushed, hot, usually **DRY** skin
- Confusion and delirium
- Noisy/Rapid breathing
- Vomiting
- Restlessness
- Convulsions
- Unconsciousness

SYMPTOMS

The casualty may complain of:

- Headache
- Dizziness
- Nausea

Elderly persons or those in poor health are more likely to experience heatstroke.

17-23

When a person has heatstroke, he may -

	Choice 1			Choice 2
A. ☐	Be in no danger.	OR	A. ☐	Be in grave danger.
B. ☐	Appear red in the face and breathe with difficulty.	OR	B. ☐	Appear white in the face and breathe quietly.
C ☐	Feel cold to the touch and be covered with droplets of sweat.	OR	C. ☐	Feel extremely warm to the touch and show no sign of sweating.
D. ☐	Complain that his head hurts and that he is about to vomit.	OR	D. ☐	Complain that his back hurts and that his fingers are numb.
E. ☐	Have a temperature of 43˚C and a fast pulse.	OR	E. ☐	Have a temperature of 35˚C and a slow pulse.
F. ☐	Feel weak as a result of internal bleeding.	OR	F. ☐	Pass out and fall to the ground.

17-23

A.	B.	C.	D.	E.	F.
2	1	2	1	1	2

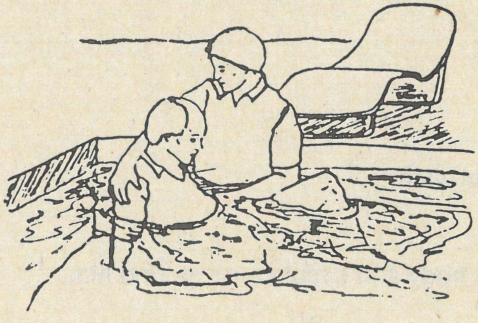
FIRST AID FOR HEATSTROKE

A person suffering from heatstroke is in a **VERY SERIOUS CONDITION** because the body is overheated and **CANNOT** reduce its temperature without assistance.

SEND FOR MEDICAL ASSISTANCE IMMEDIATELY

To prevent permanent damage or death, you must **REDUCE BODY TEMPERATURE QUICKLY.**

To cool the body, you should -

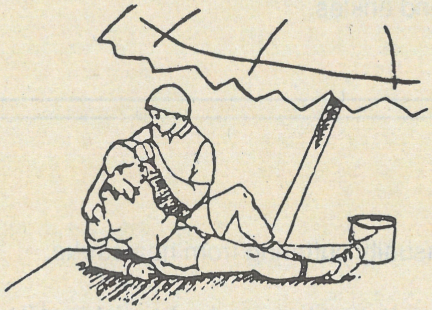


- **REMOVE CLOTHING**

AND

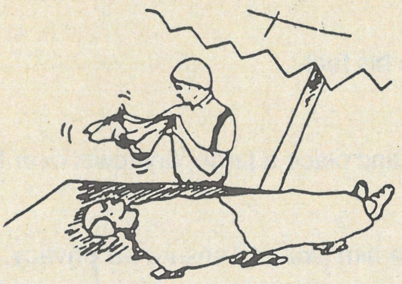
- **IMMERSE** the casualty in a **COOL BATH** and watch him closely

OR



- **SPONGE** the casualty with **COOL WATER,** particularly in the armpit, neck, head and groin areas

OR



- **COVER** him with **WET SHEETS** and direct **COOL AIR** over him by fanning

When the body feels cooler to the touch (about 38°C), place him in the **RECOVERY POSITION** and cover him with a dry sheet.

Monitor the casualty and if his **TEMPERATURE RISES, REPEAT** the cooling procedure.

17-25

A long distance runner collapses at the finish line of a race.

He has hot, dry, flushed skin and is breathing rapidly.

Which three of the following cooling techniques could you use to reduce his body temperature quickly?

A. ☐ Apply a cold towel to his forehead.

B. ☐ Place cold, wet cloths on his forehead, the back of his neck, under his arms and around his lower abdomen.

C. ☐ Place his feet in a pail of cool water.

D. ☐ Soak him in a large tub filled with cool water.

E. ☐ Place a cool, wet bath sheet over his body and circulate air around him.

F. ☐ Wrap cold towels around his wrists and ankles.

17-26

You have reduced the body temperature of a casualty suffering from heatstroke.

Which of the following actions should you take while awaiting medical assistance?

A. ☐ Place a wet towel over him and elevate his feet.

B. ☐ Position him to ensure an open airway and place a large, dry towel over him.

C. ☐ Cover him with a light blanket and leave him alone to ensure his privacy.

D. ☐ Watch him carefully and take measures to cool him, if he becomes hot again.

17-25 B. ☑ D. ☑ E. ☑

17-26 B. ☑ D. ☑

REVIEW: MODULE 17

17-27

These questions are based on this workbook exercise and the audio-visual.

Mark each statement true **(T)** or false **(F)**.

A. ☐ Heat illnesses may be caused by vigorous activities in a hot, humid environment.

B. ☐ Heat exhaustion is more serious than heatstroke.

C. ☐ Hypothermia may result when a casualty is wet and exposed to a cold environment for a prolonged period.

D. ☐ A person in severe hypothermia will stop shivering.

E. ☐ Frostbite that extends into the body tissues is more serious than frostbite to the skin surface.

F. ☐ A casualty with heat cramps is in a life-threatening condition.

G. ☐ The aim of first aid for heatstroke is to reduce the body temperature as quickly as possible.

H. ☐ To prevent injuries from the cold, wear layered protective clothing and avoid getting wet or tired.

I. ☐ The aims of first aid for hypothermia are to prevent further loss of body heat and increase body temperature.

17-27

A. T **B.** F **C.** T **D.** T **E.** T **F.** F **G.** T **H.** T **I.** T

For more information on these topics, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapter 11

END OF EXERCISE 17

Exercise 18 BURNS

You will have 19 minutes to complete this exercise (pages 18-1 to 18-20)

CAUSES OF BURNS

18-1

THE SKIN PROTECTS the body against extreme temperatures, injury and infection.

BURNS damage the skin and other underlying tissues.

Burns may be caused by -

- Contact with **HEAT**
  - Dry Heat — fire
hot objects
  - or
  - Moist heat — steam
hot liquids

- Contact with **CORROSIVE CHEMICALS**
  - Strong acids
  - or
  - Strong alkalis

- Contact with **ELECTRICITY**
  - Electric current
  - or
  - Lightning

- Exposure to **RADIATION**
  - Sun's radiation
  - or
  - Radioactive materials

In each of the following situations, a person is burned. Match each burn with one of the five causes by writing the appropriate number in each square.

Causes of Burns

1 Dry heat

2 Moist heat

3 Corrosive chemicals

4 Electricity

5 Radiation

A. ☐ A girl receives a sunburn while sleeping on the beach.

B. ☐ A mechanic spills battery acid which burns his arms.

C. ☐ A man receives burns when he is struck by lightning.

D. ☐ A child in the bath is burned by hot water.

E. ☐ While she is cooking, a woman is burned when a fire breaks out in a pan.

18-2

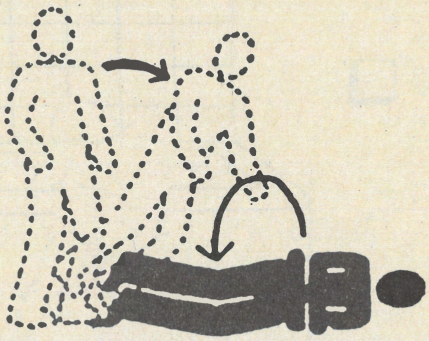
A. 5 B. 3 C. 4 D. 2 E. 1

Most burns can be prevented by adopting **SAFETY PRACTICES**.

You should -

- Use **HAND PROTECTION** when you lift or touch hot objects or work with corrosive chemicals
- Keep electric equipment in **GOOD REPAIR**
- Ensure that flammable materials and liquids are **STORED IN A WELL-VENTILATED AREA**
- Ensure that corrosive chemicals or radioactive materials are **CLEARLY LABELLED, HANDLED SAFELY** and stored in a **SECURE PLACE**
- Take precautions to prevent injury from fire, for example, by installing **SMOKE ALARMS** and **FIRE EXTINGUISHERS,** and by **NOT SMOKING IN BED**
- Use **PROTECTIVE CLOTHING** and **SUNSCREEN LOTIONS** when you are out in the sun for a long time
- **SUPERVISE CHILDREN** and **ELDERLY PERSONS** around hot stoves or in the bath
- **IF YOUR CLOTHING CATCHES FIRE**

  STOP - don't run
  DROP - to the ground
  ROLL - to put flames out



18-4

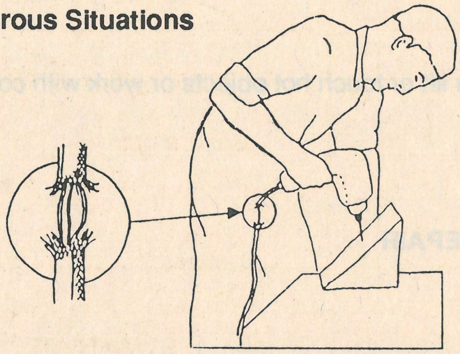
Each picture illustrates a dangerous situation.

Match each illustration with the safety practice that would prevent a burn.

Dangerous Situations

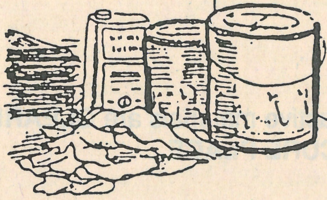
Safety Practices

A. ☐



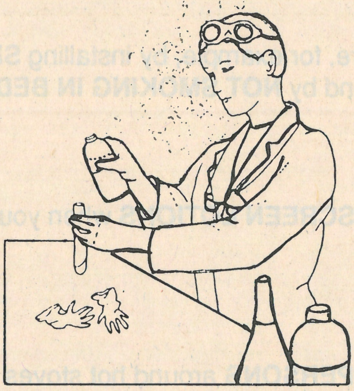
1. Supervise children in the bath.

B. ☐



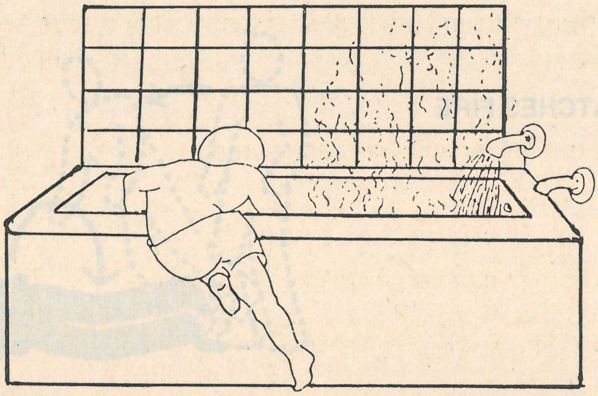
2. Wear hand and eye protection when you work with dangerous chemicals.

C. ☐



3. Keep electric tools in good repair.

D. ☐



4. Store flammable materials in a well-ventilated area.

18-4

A. 3 B. 4 C. 2 D. 1

SIGNS AND SYMPTOMS OF BURNS

18-5

Signs and symptoms of burns depend on whether the burn is superficial or deep.

	SIGNS	SYMPTOMS
SUPERFICIAL	You may observe: • Reddened/ darkened skin • Swelling • Blisters	The casualty may complain of: • Severe pain
or		
DEEP	You may observe: • Charred skin	The casualty may complain of: • Slight pain

18-6

Mark each statement true **(T)** or false **(F)**.

A. ☐ Blackened skin layers indicate a deep burn.

B. ☐ The pain accompanying a deep burn is greater than that of a superficial burn.

C. ☐ An arm is not likely to swell when it has been burned.

D. ☐ Skin that is slightly burned may be pink/darker with blisters.

18-6

A. T **B.** F **C.** F **D.** T

SERIOUSNESS OF A BURN

18-7

The seriousness of a burn depends on the -

- **AMOUNT OF BODY SURFACE** burned
- **LOCATION** of the burn
- **DEPTH** of the burn
- **GENERAL HEALTH** of the casualty
- **AGE** of the casualty

MEDICAL ASSISTANCE is always required when a burn -

- Covers a large area
- Is deep
- Is located on the face, mouth, throat or hands
- Is located on skin over joints or encircles a body part
- Is caused by chemicals or electricity
- Is received by an infant or an elderly person

18-8

Which of the following casualties would require medical assistance?

A. ☐ A 10-month-old baby burned by hot water.

B. ☐ The skin on a casualty's legs is burned away.

C. ☐ A casualty's chest and both arms are burned.

D. ☐ An 80-year-old man burns his thigh on a wood stove.

E. ☐ A worker splashes acid on his arms.

F. ☐ A teenager has difficulty swallowing after drinking a cup of steaming hot tea.

18-8

A. ☑ B. ☑ C. ☑ D. ☑ E. ☑ F. ☑

18-9

COMPLICATIONS THAT MAY RESULT FROM BURNS

A burn may be complicated by -

- **SHOCK**
- **INFECTION**
- **BREATHING PROBLEMS**
- **SWELLING**

18-10

Mark each statement relating to complications of burns as true **(T)** or false **(F)**.

A. ☐ Give first aid only for the burned area of skin.

B. ☐ Watch for respiratory difficulties.

C. ☐ Remove any jewellery before the tissue at the burned area starts to swell.

D. ☐ Watch for signs such as a weak, rapid pulse and cold, clammy skin.

E. ☐ Cover deep burned areas with clean dressings to prevent contamination.

18-10

A. F B. T C. T D. T E. T

SMOKE INHALATION

18-11

The lungs can be damaged seriously by inhaling smoke from a fire.

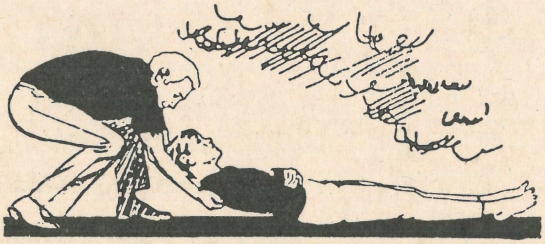
To reduce the risk of smoke inhalation -

- Stay close to the ground
- Cover your mouth with a wet cloth
- Get out of the area as quickly as possible
- In industrial fires, don't enter the fire area without the proper safety equipment

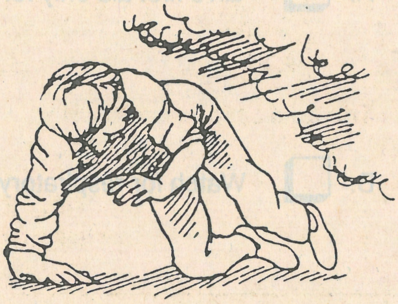
18-12

Tick (✓) the diagrams which show how to avoid smoke inhalation during a fire.

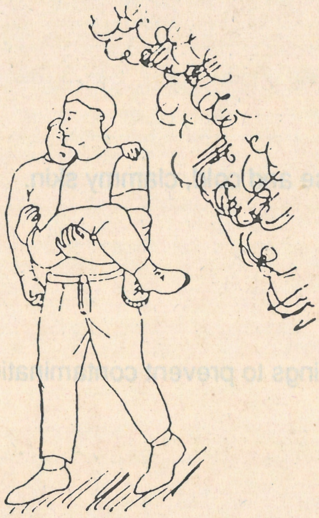
A. ☐



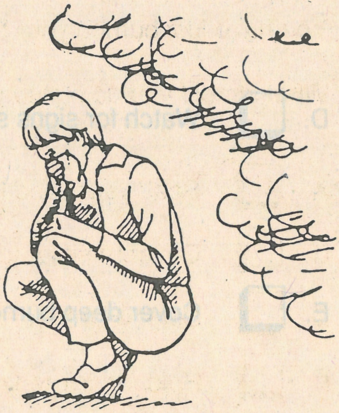
B. ☐



C. ☐



D. ☐



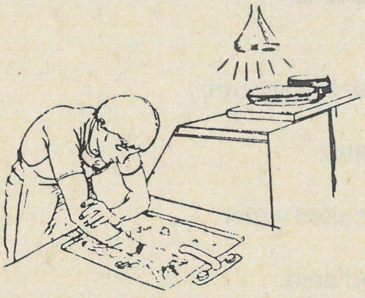
18-12

A. ☑ B. ☑ D. ☑

FIRST AID FOR HEAT BURNS

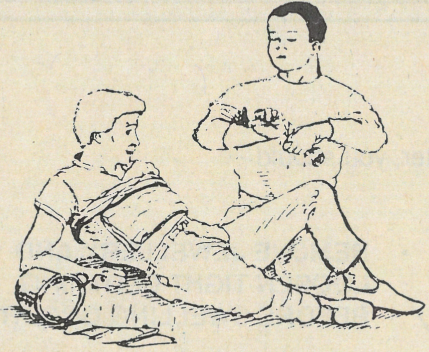
18-13

When you receive a burn you should -



- **IMMEDIATELY IMMERSE THE BURNED PART IN ICE WATER**

If immersing the burned area is **NOT** possible, you should -



- **IMMEDIATELY APPLY ICE OR CLEAN CLOTHS SOAKED IN COLD WATER**

The application of cold will -

- **REDUCE** the temperature of the burned area
- **REDUCE** swelling and blistering
- **REDUCE** damage caused by the burn
- **RELIEVE** pain

18-14

You have just burned your hand on a hot stove.

What should you do first to ease the pain?

A. ☐ Soak your hand in a sink filled with lukewarm water.

B. ☐ Cover the injured part with a clean dressing.

C. ☐ Soak your hand in a sink filled with cold water and ice cubes.

D. ☐ Hold the injured part under a fast-running warm-water tap.

18-14

C. ☑

18-15

A man receives a burn to his chest and stomach area. How should you lessen the pain while he is being transported to medical assistance?

A. ☐ Apply towels soaked in warm water to the burn.

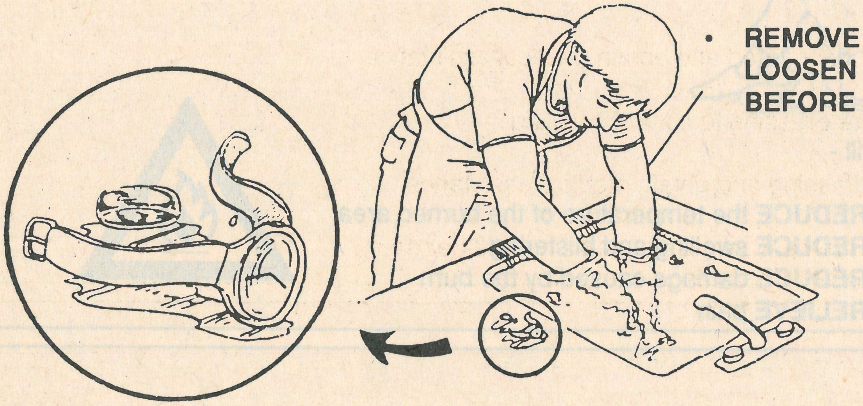
B. ☐ Cover the burn with cold moist cloths.

C. ☐ Rinse the affected area with cold salted water.

D. ☐ Apply direct pressure to the burned area.

18-16

While you are immersing a burned part in cold water, you should -



- **REMOVE JEWELLERY AND LOOSEN TIGHT CLOTHING BEFORE SWELLING OCCURS**

18-17

Which two of the following actions should you perform while soaking your burned hand?

A. ☐ Remove any rings or bracelets from your hand and arm.

B. ☐ Gently rub the burned area to relieve pain.

C. ☐ Gradually raise the temperature of the water to body temperature.

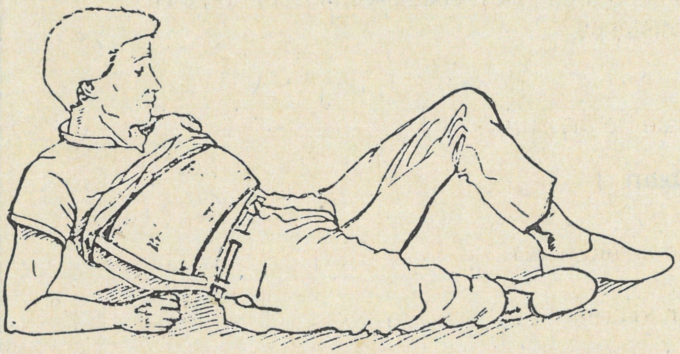
D. ☐ Loosen the cuff or sleeve of your shirt.

18-15 B. ☑

18-17 A. ☑ D. ☑

18-18

When the pain from a burn has lessened, you should -



- **COVER THE BURNED AREA** loosely with a sterile dressing or a clean material
- **SECURE THE DRESSING**, ensuring that the tape does **NOT** touch the burned area
- **ELEVATE INJURED PART, if possible**
- **OBTAIN MEDICAL ASSISTANCE**

18-19

What should you do for a burn when the intense hurt has gone?

A. ☐ Leave the burn uncovered and obtain medical assistance.

B. ☐ Apply a pressure dressing to control swelling.

C. ☐ Apply a clean dressing and obtain medical assistance.

D. ☐ Cover the burn with a warm, moist dressing and bandage.

18-20

When giving first aid for a burn, avoid causing further injury and contamination.

- **DO NOT** apply lotions, oils or butter
- **DO NOT** break blisters
- **DO NOT** touch the burn with your fingers
- **DO NOT** breathe or cough over the burn
- **DO NOT** remove clothing that is sticking to the burn
- **DO NOT** cover the burn with cotton wool or sticky material such as tape

18-19

C. ☑

18-21

Classify each of the following actions as a **Do** or **Do Not** when giving first aid for a burn.

	Do	**Do Not**	
A.	☐	☐	Apply baby oil to the burn.
B.	☐	☐	Cut away a casualty's blouse when it is clinging to burned skin.
C.	☐	☐	Apply a clean dressing and secure it in place.
D.	☐	☐	Remove ashes around the burn by blowing on the skin.
E.	☐	☐	After you have washed your hands, remove pieces of burned skin and clothing.
F.	☐	☐	Drain blisters before applying a dressing.
G.	☐	☐	Place the adhesive tape so that it does not touch the injured skin.

18-21

A. Do Not **B.** Do Not **C.** Do **D.** Do Not **E.** Do Not **F.** Do Not **G.** Do

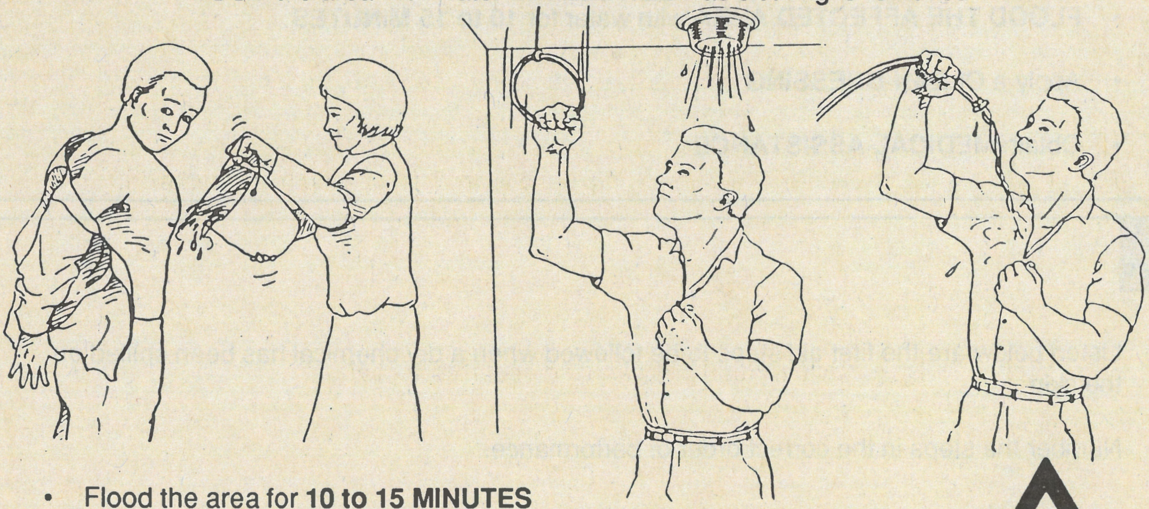
FIRST AID FOR CHEMICAL BURNS

18-22

A **CORROSIVE CHEMICAL** will continue to burn as long as it is in contact with the skin.

To minimize the effects of a **LIQUID** corrosive chemical on the skin -

- **FLOOD** the area with water **IMMEDIATELY** as clothing is removed



- Flood the area for **10 to 15 MINUTES**
- Cover with a **CLEAN DRESSING**
- Obtain **MEDICAL ASSISTANCE**

18-23

A workman has spilled strong liquid acid on his arms and chest.

What should he do?

A. ☐ Avoid touching the contaminated area and obtain medical assistance.

B. ☐ Flush his upper body with water while he takes off his shirt and pants and continues flushing for approximately 12 minutes.

C. ☐ Cover the burn with a clean, moist dressing after removing the contaminated shirt and pants.

D. ☐ Remove his shirt and pants and then pour buckets of water over the body for 2 or 3 minutes.

18-23

B. ☑

18-24

If the spilled corrosive chemical is a **DRY POWDER** you should -

- **REMOVE** contaminated clothing
- **BRUSH OFF** any powder from the skin - **DO NOT USE YOUR BARE HANDS**
- **FLOOD THE AFFECTED AREA** with water for **10 to 15 MINUTES**
- Apply a **CLEAN DRESSING**
- Obtain **MEDICAL ASSISTANCE**

18-25

Listed below are the first aid steps to be followed when a dry chemical has been spilled on the skin.

Number the steps in the correct order of performance.

A. ☐ Cover the burned area with sterile gauze.

B. ☐ Use a dry cloth to knock away any loose chemical.

C. ☐ Take off unclean clothing.

D. ☐ Obtain medical assistance.

E. ☐ Flush the contaminated skin with water for about 12 minutes.

18-25

A. 4 B. 2 C. 1 D. 5 E. 3

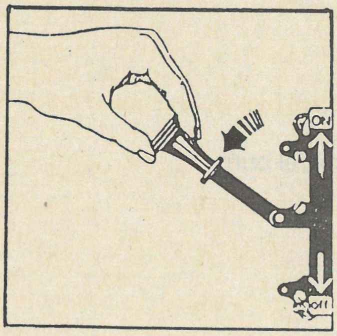
FIRST AID FOR ELECTRICAL BURNS

BURNS from an electrical current may be more serious than they appear. As well as **deep burns** at the point of **entry and exit**, an electric shock can also cause -

- **ASPHYXIA**
- **CARDIAC ARREST**
- **FRACTURES AND DISLOCATIONS**

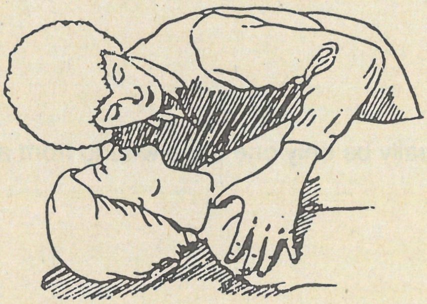
To give first aid for a casualty with electrical burns -

1.



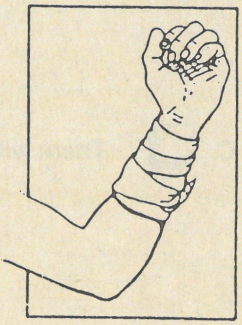
Shut current off

2.



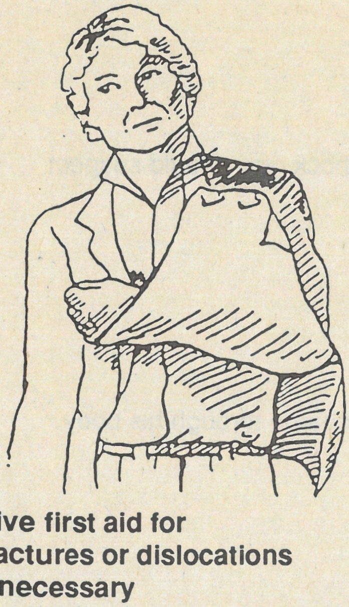
Check breathing and pulse
(Give AR or CPR if needed)

3.



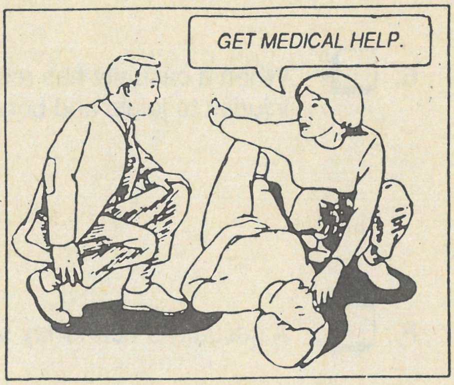
Dress the burn

4.



Give first aid for fractures or dislocations if necessary

5.


GET MEDICAL HELP.

Get medical help

18-27

Mark each statement true (T) or false (F).

A. ☐ When giving first aid for burns from electricity, the burned areas are to receive top priority.

B. ☐ Breathing may stop after an electric shock.

C. ☐ There will usually be only one deep wound from an electrical burn.

D. ☐ In an electrical accident, you should first drag the casualty from the source of electricity.

E. ☐ When a casualty has received a violent electric shock, you should suspect injuries to joints and bones.

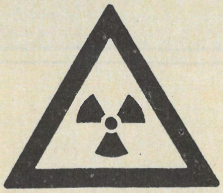
F. ☐ A casualty's heart may stop following an electric charge through his body.

18-27

A. F B. T C. F D. F E. T F. T

FIRST AID FOR RADIATION BURNS

18-28



There is no specific first aid for radiation burns caused by X-rays or radioactive material but medical assistance must be obtained.

But first aid can be given for a minor **SUNBURN** -

- **COVER** the area with a cloth soaked in cool water
- **APPLY** an ointment or a cream prepared for this purpose
- **PROTECT** burned areas from the sun
- **DO NOT** break blisters

18-29

Tick (✓) the correct statements.

A. ☐ Wet towels are soothing when applied to sunburned skin.

B. ☐ Unlike other burns, blisters caused by a sunburn should be drained before applying wet towels.

C. ☐ Get medical assistance for people who have been exposed to radioactive materials.

D. ☐ Stay in the shade if you have a sunburn.

18-29

A. ☑ C. ☑ D. ☑

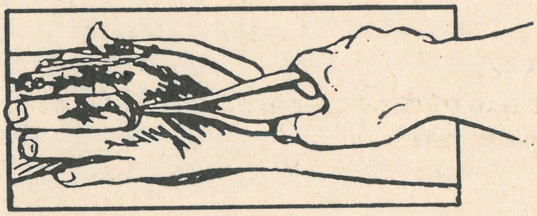
REVIEW: MODULE 18

18-30

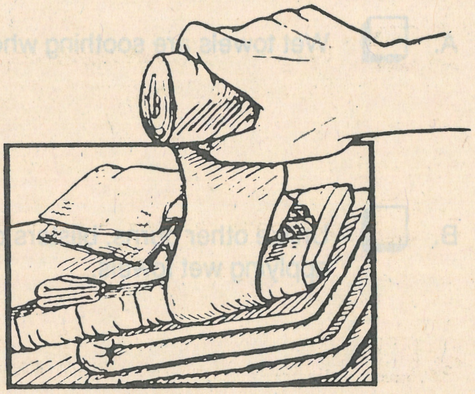
These questions are based on this workbook exercise and the audio-visual.

A man has burned his hand with boiling water. To relieve pain and reduce swelling and blistering, which of the procedures shown below should you do first?

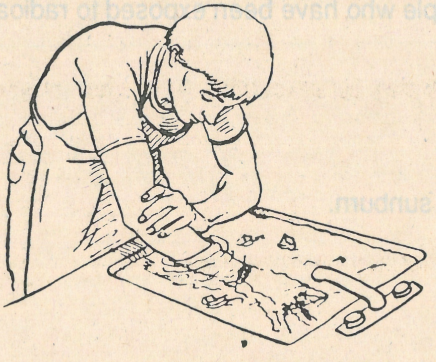
A. ☐



B. ☐



C. ☐



18-30

C. ☑

18-31

Mark each statement true **(T)** or false **(F)**.

A. ☐ Burned skin may be red or dark and blistered.

B. ☐ Shock and infection may result from a burn.

C. ☐ Burns can be prevented by following safe practices at work, at home and at play.

D. ☐ To minimize the effects of a liquid corrosive chemical on the hand, soak the hand in a small bucket of cold water.

E. ☐ When a corrosive powder spills onto the skin, brush it off before flooding the area with water.

F. ☐ A burn to the arm of an infant has a low priority for medical assistance.

G. ☐ All casualties with burns caused by electricity or chemicals should obtain medical assistance.

H. ☐ A casualty's breathing and heart may be seriously affected by an electrical burn

I. ☐ To avoid smoke inhalation in a fire stay near the floor.

18-31

A.	B.	C.	D.	E.	F.	G.	H.	I.
T	T	T	F	T	F	T	T	T

For further information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapter 10

END OF EXERCISE 18

Exercise 19 POISONING

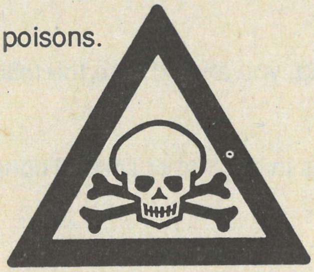
You will have 15 minutes to complete this exercise (pages 19-1 to 19-16)

PREVENTION OF POISONING

19-1

A **POISON** is any substance that can impair health or cause death if taken into the body.

Some substances are labelled as poisons.



DANGER! WARNING! CAUTION!
POISON

Many common substances can be poisonous and are not identified.
Examples of these are -

- tobacco
- alcohol
- some household plants
- contaminated food
- medications

19-2

Which of the following substances could cause poisoning?

A. ☐ Children's cough syrup.

B. ☐ A spoiled cream pie.

C. ☐ Furniture polish.

D. ☐ Model aeroplane glue.

E. ☐ Aspirin.

19-2

A. ☑ **B.** ☑ **C.** ☑ **D.** ☑ **E.** ☑

THE BEST WAY TO DEAL WITH POISONING IS TO PREVENT IT FROM HAPPENING

To prevent accidental poisoning, you should take the following safety measures -

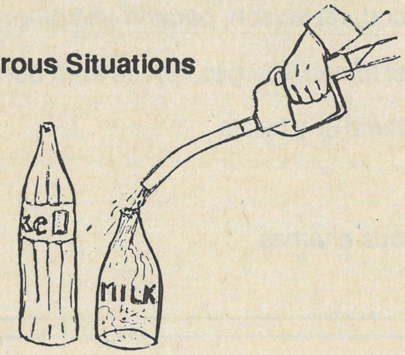
- Keep poisonous substances in original or special containers
- Read instructions on labels before using medicines, chemicals or insecticides
- Ventilate areas where engine or chemical fumes are present
- Keep poisonous products and plants out of the reach of children and teach children to avoid poisonous plants outdoors
- Use childproof caps on medicines
- Flush unused medicine portions down the toilet

Each picture illustrates a dangerous situation that could lead to poisoning.

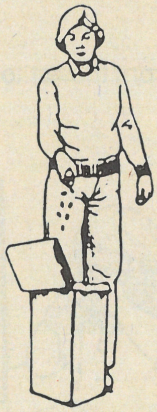
Match each situation with the appropriate safety measure.

Dangerous Situations

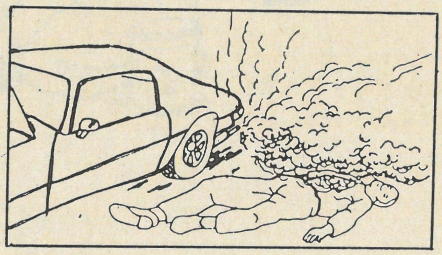
A. ☐



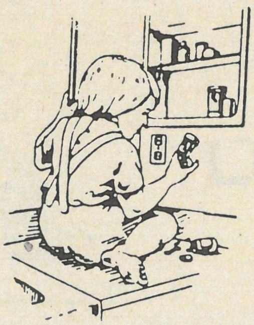
B. ☐



C. ☐



D. ☐



Safety Measures

1. Ensure fresh air in rooms where gas fumes are present.
2. Keep medications in a locked cupboard.
3. Avoid storing harmful substances in drink bottles.
4. Dispose of unused medicines by flushing them down the toilet.

19-4

A. 3 B. 4 C. 1 D. 2

HOW POISONS ENTER THE BODY

19-5

Poisons enter the body in five ways.

A poison may be -

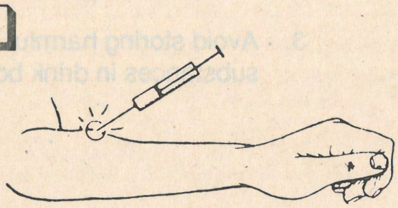
- **TAKEN BY MOUTH:** e.g. contaminated food, rat poison, paraffin and other poisonous liquids
- **INHALED** through the airway: e.g. exhaust fumes, silo gas, fumes from burning plastic foam.
- **ABSORBED** through the skin: e.g. agricultural chemicals
- **INJECTED** through the skin: e.g. drugs
- **INSERTED** through the anus: e.g. poisonous enemas

19-6

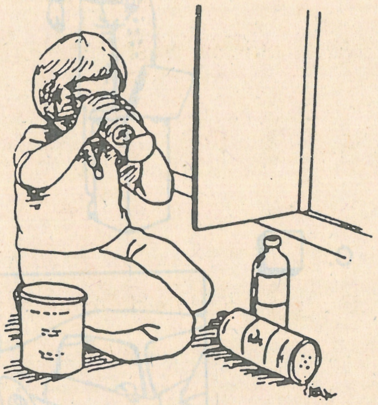
Write into the box beside each picture, the appropriate number from the list to identify how the poison enters the body.

1. Swallowed (ingested)
2. Inhaled
3. Absorbed
4. Injected

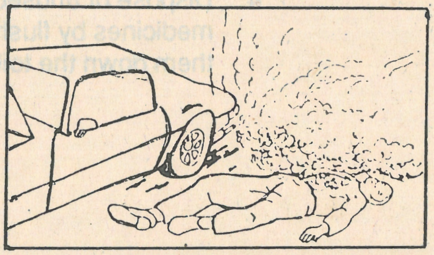
A. ☐



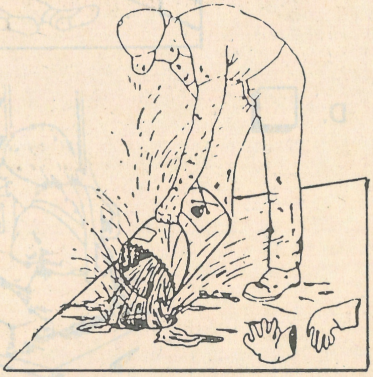
B. ☐



C. ☐



D. ☐



19-6

A. 4 B. 1 C. 2 D. 3

HISTORY OF A POISONING EMERGENCY

19-7

The **HISTORY** of a poisoning emergency is necessary to help you decide what first aid to give.

Try to find out -

- **WHAT** poison was taken?
- **HOW** did the poison enter the body?
- **HOW MUCH** poison was taken?
- **WHEN** was the poison taken?

19-8

You find a 3-year-old playing in the garden with an open bottle of liquid pesticide in his hands.

What information should you try to find out immediately?

A. ☐ Where did he find the pesticide?

B. ☐ Did he drink the pesticide?

C. ☐ Was the pesticide in a locked cupboard?

D. ☐ What quantity of pesticide, if any, did he drink?

E. ☐ If he drank the pesticide, how long has it been since he drank it?

19-8

B. ☑ D. ☑ E. ☑

GENERAL FIRST AID FOR POISONING

19-9

Whenever you suspect that a person has taken any poison, you should **IMMEDIATELY** -

- Try to determine the **HISTORY** of the incident
- Contact the **POISON INFORMATION CENTRE**, doctor, ambulance or other medical assistance and give the complete history and the present condition of the casualty
- **FOLLOW THE DIRECTIONS** you are given by the Poison Information Centre or doctor

19-10

An elderly man tells you he has accidentally swallowed a poison.

You should -

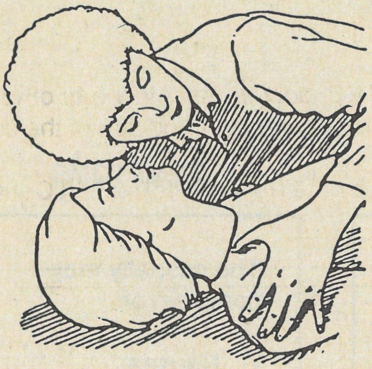
	Yes	No	
A.	☐	☐	Ask him what he took, how much and when.
B.	☐	☐	Telephone the Poison Information Centre and tell them what you know about the poisoning.
C.	☐	☐	Telephone a doctor or an ambulance if you cannot reach the Poison Information Centre.
D.	☐	☐	Give first aid for poisoning without attempting to telephone a doctor or an ambulance.

19-10

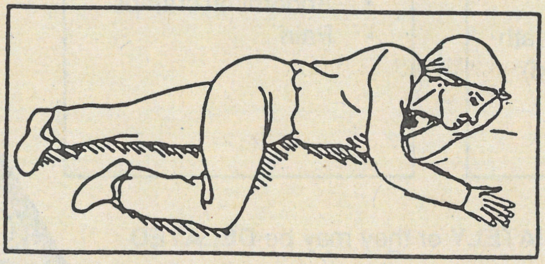
A. Yes B. Yes C. Yes D. No

19-11

When a casualty is **UNCONSCIOUS** as a result of poisoning, you must **FIRST -**



- **CHECK** for **BREATHING** and give artificial respiration, if necessary



- **PLACE** the casualty in the recovery position, if she is breathing
- Obtain medical assistance **IMMEDIATELY**

NEVER INDUCE VOMITING IN AN UNCONSCIOUS CASUALTY

19-12

A casualty is unconscious as a result of taking an overdose of sleeping pills.

You should -

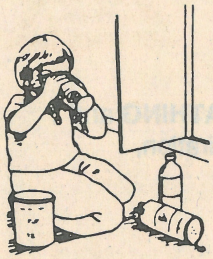
	Yes	**No**	
A.	☐	☐	Place him flat on his back with feet elevated.
B.	☐	☐	Maintain an open airway.
C.	☐	☐	Dilute the poison by moistening his lips with water.
D.	☐	☐	Provide mouth-to-mouth ventilations if he stops breathing.
E.	☐	☐	Get medical assistance as soon as possible.
F.	☐	☐	Induce vomiting.

19-12

A. No **B.** Yes **C.** No **D.** Yes **E.** Yes **F.** No

19-13

The following signs and symptoms may indicate that a poison was **TAKEN BY MOUTH -**



SIGNS

You may observe:

- Discoloured lips
- Burns in the mouth (corrosive)
- Odour on the breath (petroleum based)
- Vomiting
- Confusion

SYMPTOMS

The casualty may complain of:

- Nausea
- Abdominal cramps
- Pain

Signs and symptoms may appear **IMMEDIATELY** or they may be **DELAYED**.

19-14

Your toddler is found playing in the bathroom. Somehow she managed to open the cupboard containing cleaning supplies. Which of the following might indicate that she has swallowed some poison?

A. ☐ She has a deep cut on her cheek.

B. ☐ Her lips have a trace of white powder on them.

C. ☐ One of the containers is open and empty.

D. ☐ There are blisters on her tongue.

E. ☐ She seems to be in pain.

19-14

B. ☑ **C.** ☑ **D.** ☑ **E.** ☑

19-15

When the person who has swallowed a poison is **CONSCIOUS** and you **CANNOT** immediately reach the **POISON INFORMATION CENTRE** or medical assistance, you should -

- **WIPE** the casualty's face to remove any poisonous/corrosive material
- **RINSE** or **WIPE** out the casualty's mouth, especially if a powdered or solid poison/ corrosive is involved
- **NOT DILUTE** the poison in the casualty's stomach
- **NOT INDUCE VOMITING** unless advised to do so by the Poison Information Centre or a doctor
- **OBTAIN MEDICAL ASSISTANCE** as **QUICKLY** as possible

19-16

Mark each statement true **(T)** or false **(F)**.

A. ☐ If a conscious person has swallowed a non-corrosive poison, you should immediately induce vomiting by giving several glasses of warm water.

B. ☐ In all cases of poisoning, the casualty should be transported to medical assistance as soon as possible.

C. ☐ Traces of the poisonous substance about the casualty's mouth should be left untouched for identification purposes.

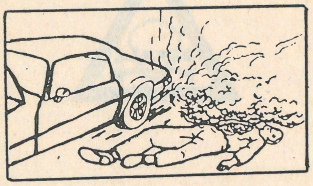
D. ☐ No attempt should be made to weaken the strength of the poison by giving the casualty liquids to drink.

E. ☐ Vomiting in a 3-month old baby should only be initiated on the recommendation of a doctor.

19-16

A. F B. T C. F D. T E. T

19-17



The following signs and symptoms may indicate that a poison was **INHALED** -

SIGNS	SYMPTOMS
You may observe:	The casualty may complain of:
• Breathing problems	• Headache
• Changes in pulse	• Dizziness
• Confusion	• Chest Pain
• Unconsciousness	
• Coughing	

You should -

- **MOVE** the casualty into fresh air
- **GIVE** artificial respiration, if necessary
- **OBTAIN MEDICAL ASSISTANCE**

19-18

A casualty is found unconscious in a small room. Fumes suggest that he has inhaled poisonous gas. Which of the following should you do?

A. ☐ Take him outside.

B. ☐ Check for breathing and pulse.

C. ☐ Give liquids to dilute the poison.

D. ☐ Begin artificial respiration if breathing has stopped.

E. ☐ Apply ice packs to reduce head and chest pain.

F. ☐ Take him to the hospital.

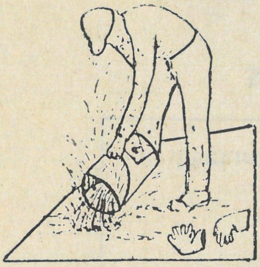
19-18

A. ☑ B. ☑ D. ☑ F. ☑

ABSORBED POISONS

19-19

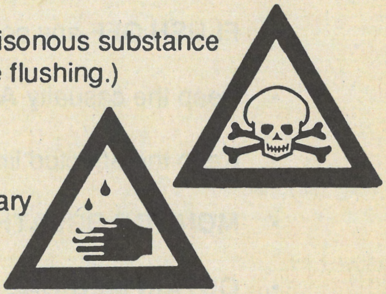
The following signs and symptoms may indicate that a poison has been **ABSORBED** through the skin -



SIGNS	SYMPTOMS
You may observe: • Reddened/Darkened skin • Changes in pulse • Breathing problems • Confusion • Unconsciousness	The casualty may complain of: • Headache • Dizziness • Nausea

You should -

- **REMOVE** contaminated clothing carefully
- **FLUSH** the affected skin with large amounts of water. (If the poisonous substance is a powder, brush off excessive amounts with a dry cloth before flushing.)
- **WASH THE SKIN** with soap and water, if possible
- **MONITOR BREATHING** and give artificial respiration, if necessary
- **OBTAIN MEDICAL ASSISTANCE**



19-20

Choose the correct completions for the following statement.

When a poison has been absorbed through the skin -

A. ☐ The involved area may appear burned.

B. ☐ You should give the casualty several glasses of cool water to drink.

C. ☐ The contaminated area of the body should be flooded with water and then cleaned.

D. ☐ Artificial respiration may be required for the casualty.

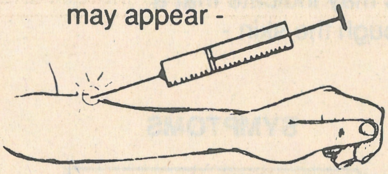
E. ☐ The casualty does not usually require medical attention.

19-20

A. ☑ C. ☑ D. ☑

19-21

When a poison has been **INJECTED** through the skin, the following signs and symptoms may appear -



SIGNS	SYMPTOMS
You may observe: • Irritation at the site of injection • Breathing problems • Changes in pulse • Confusion • Unconsciousness	The casualty may complain of: • Headache • Dizziness • Nausea

To reduce the spread of the poison throughout the body, you should -

- **FLUSH OFF** any poison that remains on the skin
- Keep the casualty **AT REST**
- Keep the affected limb at **HEART LEVEL**
- **MONITOR BREATHING** and give artificial respiration, if required
- **OBTAIN MEDICAL ASSISTANCE**

19-22

Mark each statement true (T) or false (F).

A. ☐ When a poisonous substance is inserted under the skin a respiratory emergency can develop.

B. ☐ When a poison has been injected, your first concern is to slow down the circulation of the poison.

C. ☐ A person who has been poisoned by an injected poison should be encouraged to move around to prevent unconsciousness.

D. ☐ When a poison has been injected into a casualty's lower arm, you should lay him down and maintain his arm at heart level.

19-22

A. T B. T C. F D. T

REVIEW: MODULE 19

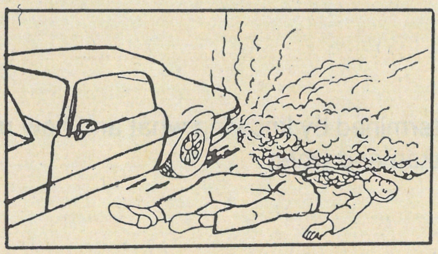
19-23

Each illustration below shows a poisoning incident.

Match each illustration with the immediate first aid to be given when the Poison Information Centre or a physician cannot be reached by writing the appropriate number in the squares provided.

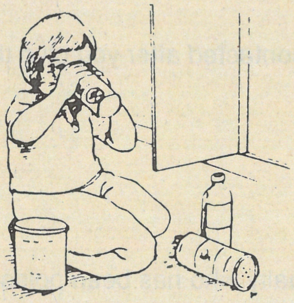
Poisoning Incident | **First Aid**

A. ☐



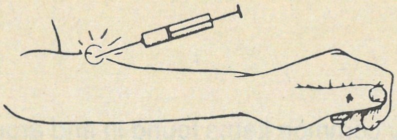
1. Give the casualty several glasses of cool water to drink.

B. ☐



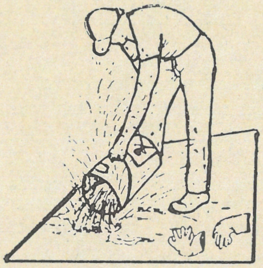
2. Carry the casualty to fresh air and begin artificial respiration, if necessary.

C. ☐



3. Flush the skin with quantities of water and then wash with soap and water.

D. ☐



4. Flush off any poison on the skin, lie the person down and keep the arm at heart level.

19-23

A. 2 B. 1 C. 4 D. 3

19-24

Mark each statement true **(T)** or false **(F)**.

A. ☐ Poisonous substances should be kept in original containers and out of the reach of children.

B. ☐ Unused medicines should be thrown into a covered rubbish bin.

C. ☐ The history of a poisoning is determined by knowing what and how much poison was taken, how it was taken and when.

D. ☐ The Poison Information Centre should be contacted after you give the immediate first aid for poisoning.. .

E. ☐ Medical assistance is required for any casualty who has been poisoned.

F. ☐ Poisoning may be caused by many common items found in and around the home.

19-24

A. T **B.** F **C.** T **D.** F **E.** T **F.** T

For further information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapter 12

END OF EXERCISE 19

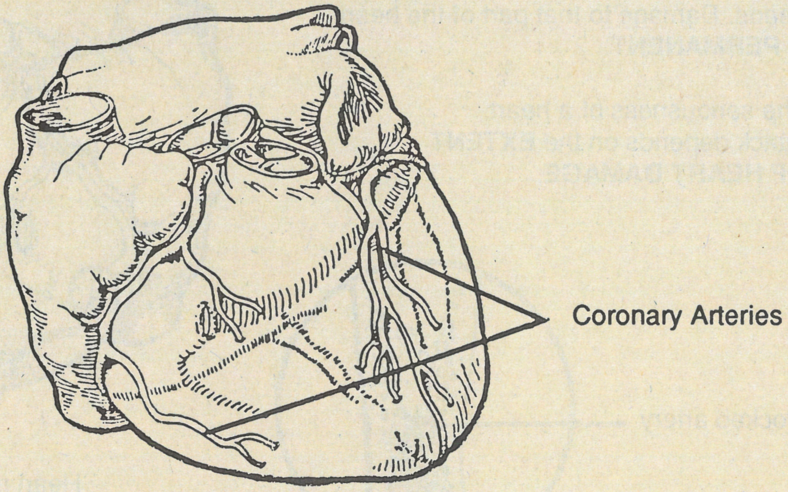
NOTES

Exercise 20 HEART ATTACK AND STROKE

You will have 15 minutes to complete this exercise (pages 20-1 to 20-16)

THE HEART

20-1



Healthy Heart

The **HEART** acts as a pump. It continuously circulates blood to the lungs and all parts of the body including its own muscle tissue.

The heart needs a constant supply of blood rich in oxygen and nutrients to continue to do its work. The heart receives this blood through its own system of arteries - the **CORONARY ARTERIES**.

20-2

Mark each statement true (T) or false (F).

A. ☐ The heart muscle requires continuous oxygen and food to function.

B. ☐ Special arteries provide oxygenated blood to the heart muscle.

C. ☐ When the body is at rest, it does not require oxygen.

D. ☐ The blood is sent to all parts of the body by the heart.

20-2

A. T B. T C. F D. T

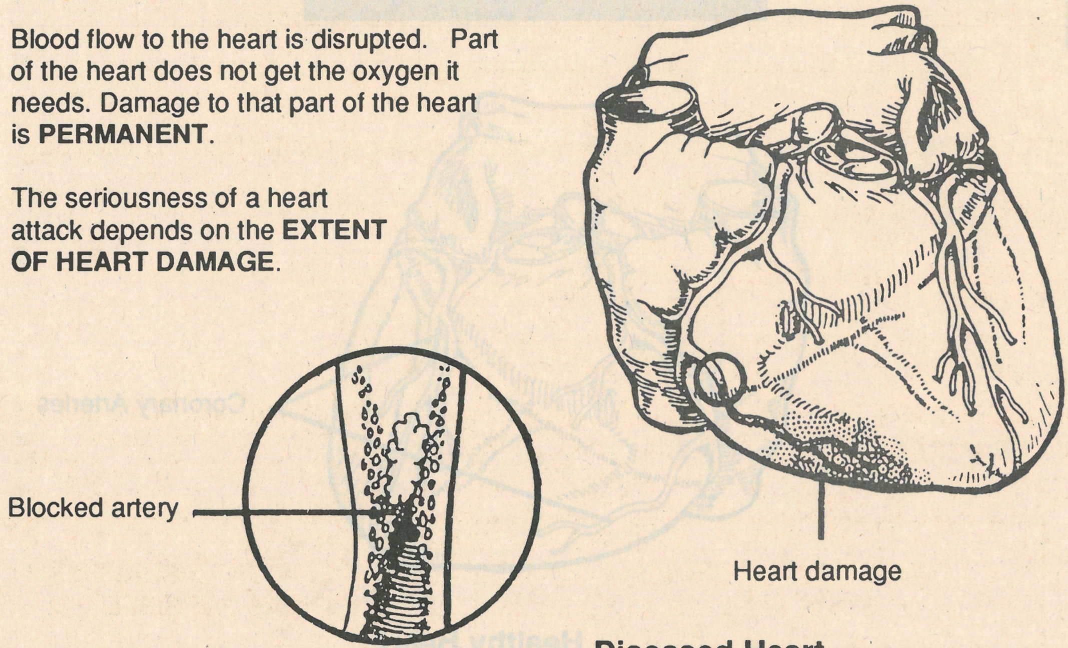
CAUSE OF A HEART ATTACK

20-3

A HEART ATTACK occurs when one of the **CORONARY ARTERIES** feeding the heart muscles is completely or partially **BLOCKED**.

Blood flow to the heart is disrupted. Part of the heart does not get the oxygen it needs. Damage to that part of the heart is **PERMANENT**.

The seriousness of a heart attack depends on the **EXTENT OF HEART DAMAGE**.



Diseased Heart

20-4

Mark each statement true (**T**) or false (**F**)

A. ☐ A heart attack results when part of the heart muscle does not receive any blood supply.

B. ☐ Time and medication can repair the heart tissue affected by a heart attack.

C. ☐ The heart tissue dies without a constant supply of oxygen and nutrients.

D. ☐ A heart attack involving total blockage of a coronary artery is considered critical.

20-4

A. T B. F C. T D. T

20-5

A HEART ATTACK IS A MAJOR HEALTH PROBLEM

TWELVE THOUSAND South Africans die each year following a heart attack - 31 each day

More than half of these deaths take place -

- **BEFORE** reaching the hospital
- **WITHIN 2 HOURS** of the onset of signs and symptoms

EARLY RECOGNITION of the signals of a heart attack and prompt and appropriate first aid could save many of these lives.

A HEART ATTACK IS A SERIOUS MEDICAL EMERGENCY. CASUALTIES MUST BE TREATED AT THE HOSPITAL AS SOON AS POSSIBLE

20-6

Mark each statement true (**T**) or false (**F**).

A. ☐ Becoming familiar with the signs and symptoms of a heart attack and knowing the effective first aid could save many lives.

B. ☐ The victim of a heart attack often dies a short time after the first signs and before medical assistance has been obtained.

C. ☐ Once a heart attack has occurred, there is little a First Aider can do.

D. ☐ The priority of first aid for a heart attack victim is to obtain immediate medical assistance.

20-6

A. T **B.** T **C.** F **D.** T

20-7

There are some **RISK FACTORS** over which one has little control that make a person more susceptible to heart attacks, e.g.-

- Family history of heart disease
- Previous heart attack
- Diabetes

However, **UNHEALTHY LIFESTYLES** are a major contributing factor to heart attack.

The risk of heart attack can be **REDUCED CONSIDERABLY** by adopting **HEALTHY LIFESTYLES**, e.g. -

- No smoking
- Avoiding stress
- Exercising regularly (in moderation)
- Maintaining a recommended body weight
- Keeping a balanced diet
- Reducing the intake of food high in saturated fat to help maintain reasonable levels of cholestrol
- Having regular blood pressure checks

20-8

Tick (✓) the habits which should reduce your chances of suffering a heart attack.

A. ☐ Smoking a pipe instead of cigarettes

B. ☐ Taking time to relax and rest.

C. ☐ Having regular check-ups by your doctor.

D. ☐ Eating moderately according to good dietary rules.

E. ☐ Starting an exercise programme after consultation with your doctor.

F. ☐ Following your doctor's treatment plan if you have high blood pressure.

20-8

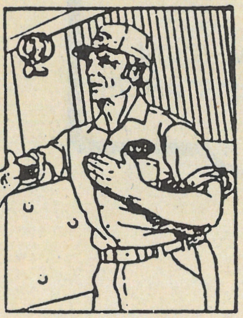
B. ☑ C. ☑ D. ☑ E. ☑ F. ☑

SIGNS AND SYMPTOMS OF A HEART ATTACK

20-9

The casualty may deny that he is having a heart attack but you may note some or all of the following -

SIGNS



You may observe:

- Shortness of breath
- Paleness
- Dizziness
- Unconsciousness
- Profuse sweating
- Vomiting
- Shock

SYMPTOMS

The casualty may complain of:

- Pain, pressure or squeezing sensation in the centre of the chest
- Pain radiating to neck, shoulders and arms
- Nausea
- Apprehension and fear

If some or all of these signs and symptoms are present, a cardiac arrest may follow.

20-10

Which of the following signs and symptoms might assist you in assessing a heart attack?

A. ☐ Tingling sensation in the legs and feet.

B. ☐ Great discomfort in the heart region and above.

C. ☐ White/grey, very moist skin.

D. ☐ Anxiety

E. ☐ Insisting that it is just a stomach upset.

F. ☐ Flushed face.

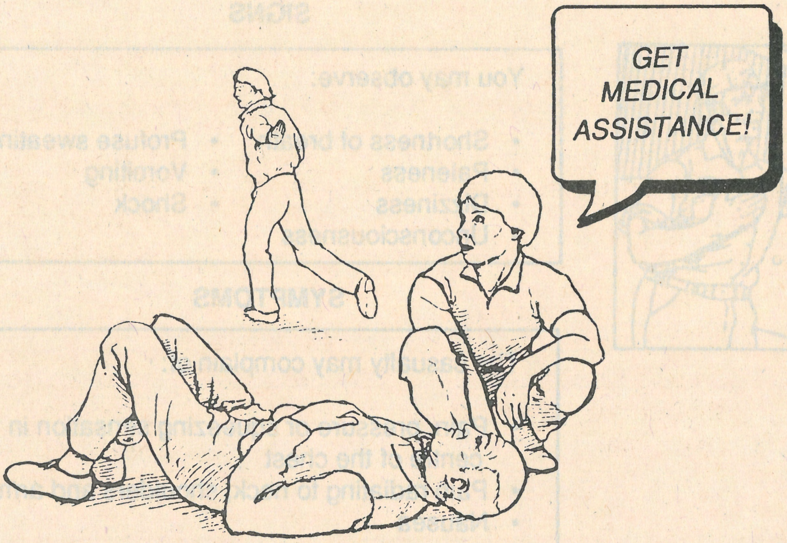
G. ☐ Breathing difficulty

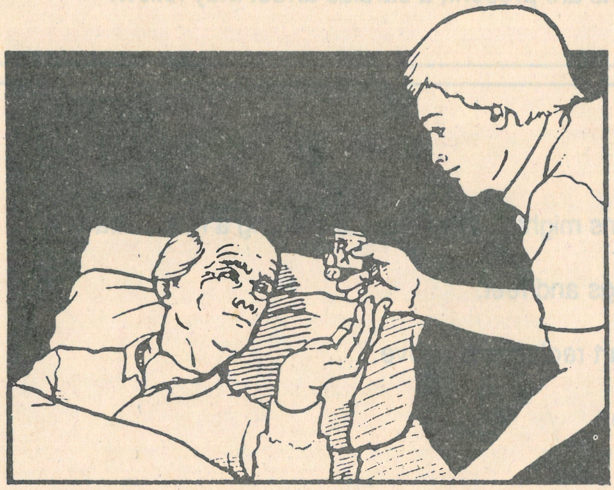
20 -10

B. ☑ C. ☑ D. ☑ E. ☑ G. ☑

20-11

When you suspect that a person is having a heart attack, you should **OBTAIN MEDICAL ASSISTANCE IMMEDIATELY** and -


GET MEDICAL ASSISTANCE!



- **PLACE** the person at rest in the position of most comfort, usually **SEMISITTING** to ease breathing
- ASK the conscious casualty if he has any **PRESCRIBED MEDICATION** with him and assist him to take it
- **LOOSEN** tight clothing at the neck, chest and waist
- **REASSURE** the casualty to lessen fear and anxiety

Monitor **BREATHING** and begin artificial respiration, if necessary.

Monitor **PULSE**. If there is **NO PULSE**, start cardiopulmonary resuscitation (CPR) if trained or call for someone to give **CPR**, but **CONTINUE** artificial respiration until help arrives.

20-12

An elderly neighbour collapses after running for a bus. He is sweating profusely and clutching his chest. You suspect a heart attack. Which choice of actions should you take?

		Choice 1				Choice 2
A.	☐	Help him into his house.	**OR**	A.	☐	Send someone to call for an ambulance.
B.	☐	Prop up his head and shoulders with your heavy coat.	**OR**	B.	☐	Place your coat under his legs to raise them.
C.	☐	Help him take his pills for his heart condition.	**OR**	C.	☐	Give him nothing by mouth.
D.	☐	Speak to him gently and tell him help is on the way.	**OR**	D.	☐	Speak to him in an authoritative voice so he will realise you are in charge.
E.	☐	Give artificial respiration if he stops breathing.	**OR**	E.	☐	Assume he is dead if he stops breathing.
F.	☐	Begin CPR if his heart stops even if you are not trained to do so.	**OR**	F.	☐	Call for CPR help if his heart stops, but continue with artificial respiration.

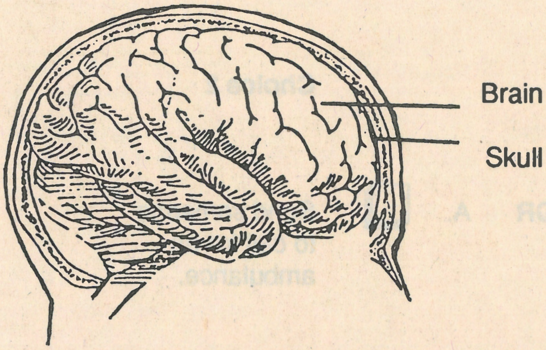
20-12

A.	B.	C.	D.	E.	F.
2	1	1	1	1	2

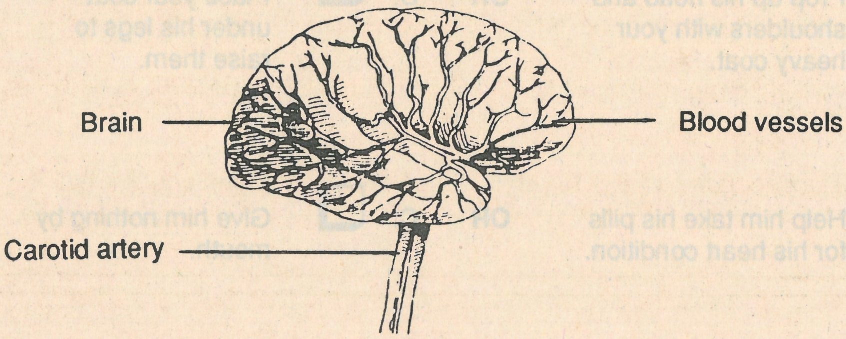
20-13

THE BRAIN

The brain controls all activities of the body.
To function normally it requires a continous blood flow.



The brain receives a rich blood supply from the two carotid arteries.



When part of the brain loses its blood supply, that part stops functioning and may be permanently damaged.

20-14

Tick (✓) the correct statements.

A. ☐ Insufficient blood to the brain results in "death" of the whole organ.

B. ☐ The brain needs a constant source of blood to do its work.

C. ☐ The two major arteries in the neck are carrying blood to the brain.

D. ☐ Following a stroke, some function of the brain may be forever impaired.

20-14

B. ☑ C. ☑ D. ☑

CAUSE OF A STROKE

20-15

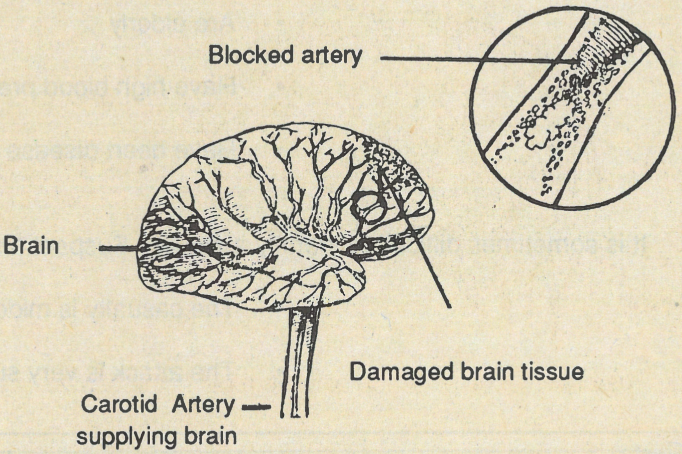
A STROKE occurs when a part of the brain ceases to function because of a shortage of oxygen and food supply.

This may be caused by a -

- **RUPTURED BLOOD VESSEL**

OR

- **BLOCKED ARTERY**



The effects of a stroke range from **SLIGHT TO SERIOUS IMPAIRMENT** of body functions to **DEATH**.

The seriousness depends on **WHAT PART** of the brain is damaged and to what **DEGREE**.

20-16

Mark each statement true (**T**) or false (**F**).

A. ☐ Damage caused by a stroke may vary from minor to severe.

B. ☐ When blood flow to the brain is stopped, a stroke may occur.

C. ☐ Any of the body's functions may be affected by a stroke depending on which part of the brain is involved.

D. ☐ A stroke seldom affects the brain's function.

E. ☐ The brain needs a continuous blood flow to receive oxygen and nourishment.

20-16

A. T B. T C. T D. F E. T

20-17

A stroke can occur at any age; however, it usually occurs in people who -

- Are middle-aged
- Are elderly
- Have high blood pressure
- Have heart disease

It is sometimes difficult to identify a stroke. Suspect a stroke when -

- The casualty is middle-aged or older
- The attack is very sudden

20-18

Mark each statement true (T) or false (F).

A. ☐ Strokes are more common in people between 45-90 years of age.

B. ☐ A stroke can never occur in a younger person.

C. ☐ An elevated blood pressure is a contributing factor to a stroke.

D. ☐ It is easy to recognise when a stroke has occurred.

E. ☐ A stroke usually occurs unexpectedly.

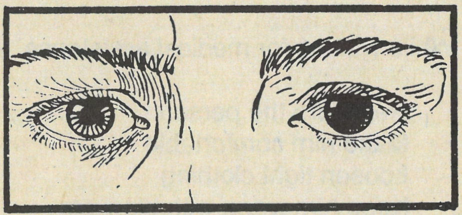
20-18

A. T B. F C. T D. F E. T

SIGNS AND SYMPTOMS OF A STROKE

20-19

The signs and symptoms of a stroke differ depending on what part of the brain is damaged. You may note some or all of the following -



SIGNS

You may observe:

- Paralysis of face muscles
- Difficulty in speaking and /or swallowing
- Loss of bladder and bowel control
- Weakness or paralysis of limbs, particularly on one side
- Changes in the level of consciousness
- Convulsions
- Unequal size of the pupils of the eyes

SYMPTOMS

The casualty may complain of:

- Weakness, particularly of hands and feet on one side
- Headache

20-20

Tick (✓) the signs and symptoms which could indicate that a stroke has occurred.

A. ☐ The pupil of one eye is larger than the pupil of the other eye.

B. ☐ The casualty wants to respond to your questions but cannot seem to get the words out.

C. ☐ The casualty appears overactive and vomits.

D. ☐ The casualty cannot move her left arm or leg.

E. ☐ The person cannot control the need to urinate or move his bowels.

F. ☐ The casualty cannot control muscle movement.

20-20

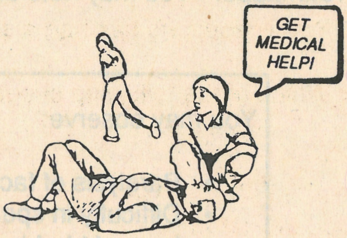
A. ☑ B. ☑ D. ☑ E. ☑ F. ☑

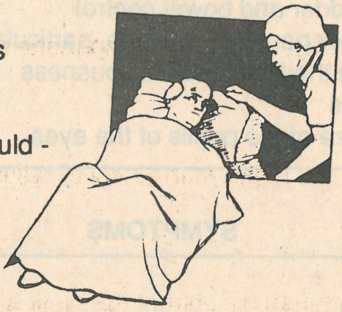
FIRST AID FOR A STROKE

When you suspect that a person has had a stroke, you should **OBTAIN MEDICAL ASSISTANCE IMMEDIATELY**.

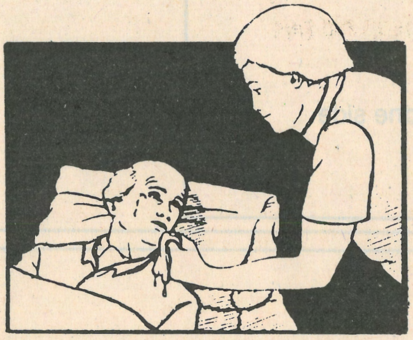
While waiting for medical assistance, you should -

- Reassure the person
- Make him comfortable
- Loosen tight clothing
- Keep him warm with blankets
- **NEVER** apply heating pads or hot water bottles to paralyzed parts


GET MEDICAL HELP!

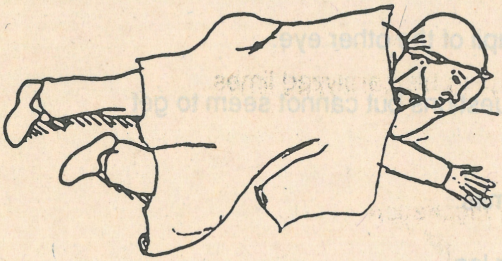


If the person is **CONSCIOUS**, you should -



- Place him at rest and support him in a **SEMISITTING** position
- **MOISTEN** his lips and tongue with a wet cloth, if he complains of thirst

If the person is **UNCONSCIOUS**, you should -



- Give him **NOTHING** by mouth
- Place him in the **RECOVERY POSITION** on the **PARALYZED** side to ease breathing

A stroke victim may also require artificial respiration

- Maintain an open airway
- If breathing and the heart stop, CPR will be necessary

PROTECT HIM FROM INJURY

20-22

An elderly man suddenly becomes paralyzed on his left side and has difficulty speaking.

You suspect he has had a stroke.

Which of the following should you do?

	YES	NO	
A.	☐	☐	Instruct someone to telpehone for an ambulance.
B.	☐	☐	Speak to the man kindly to relieve his anxiety.
C.	☐	☐	Unbutton his shirt at the neck and loosen his belt.
D.	☐	☐	Give him a glass of water to drink.
E.	☐	☐	Position him to assist his breathing.
F.	☐	☐	If he becomes unconscious, place him in the recovery position on his right side.
G.	☐	☐	Take care to avoid further damage to his paralyzed limbs.
H.	☐	☐	If breathing stops, begin artificial respiration.
I.	☐	☐	If there is no pulse, begin CPR if trained to do so.

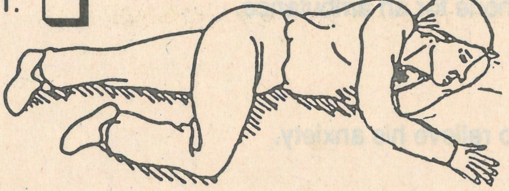
20-22 A. Yes B. Yes C. Yes D. No E. Yes F. No G. Yes H. Yes I. Yes

REVIEW: MODULE 20

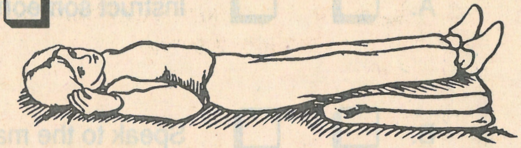
20-23

A. Tick (✓) the illustration below that shows the position that will most likely relieve breathing difficulties in a conscious heart attack victim.

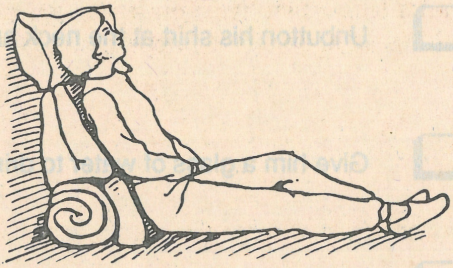
1. ☐



2. ☐



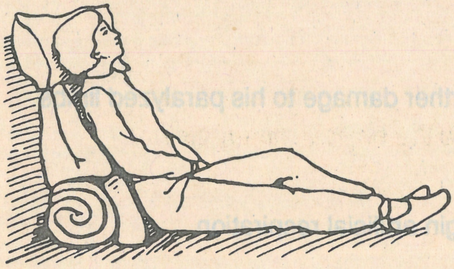
3. ☐



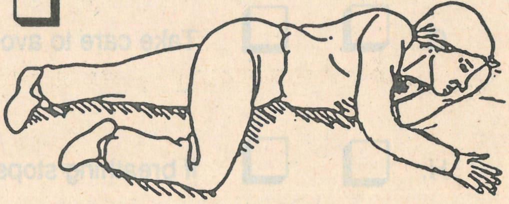
B. An conscious stroke victim is paralysed on his left side. This causes an accumulation of saliva in his mouth and throat.

Tick (✓) the position below that would best ensure an open airway.

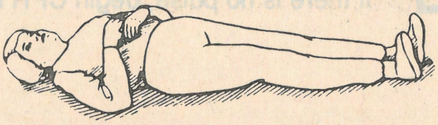
1. ☐



2. ☐



3. ☐



20-23

A. 3 **B.** 2

20-24

Mark each statement true (**T**) or false (**F**).

A. ☐ If part of the heart is without a supply of blood, it will suffer permanent damage.

B. ☐ A large number of heart attacks could be avoided if people would adopt a healthy lifestyle.

C. ☐ A heart attack victim has a greater chance of survival if he recognises the symptoms as soon as they appear and gets medical assistance immediately.

D. ☐ Brain damage is a common result of a heart attack.

E. ☐ A heart attack or a stroke is always fatal.

F. ☐ A stroke occurs when blood flow to the brain is interrupted.

G. ☐ You can reduce the risk of heart attack and stroke if you stop smoking,. avoid stress and exercise regularly.

20-24 **A.** T **B.** T **C.** T **D.** F **E.** F **F.** T **G.** T

For further information on this topic, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapter 13

END OF EXERCISE 20

Exercise 21 MEDICAL CONDITIONS

You will have 11 minutes to complete this exercise (pages 21-1 to 12-12)

INTRODUCTION TO DIABETIC EMERGENCIES

21-1

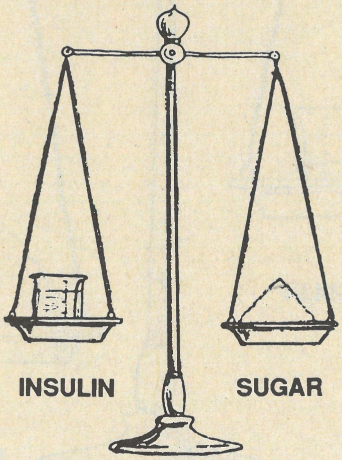
The human body requires **ENERGY** to function.

Its energy source is **SUGAR** which comes from food when it is digested.

This sugar is stored in the body to be used when needed.

To regulate the use of sugar, the body produces a substance called **INSULIN**.

Normally, there is a balance between the **SUGAR USED** and the **INSULIN PRODUCED**.



Normal Balance of Sugar and Insulin

21-2

Mark each statement true (**T**) or false (**F**).

A. ☐ Sugar acts as a fuel for the body.

B. ☐ Most foods contain insulin and supply it to the body.

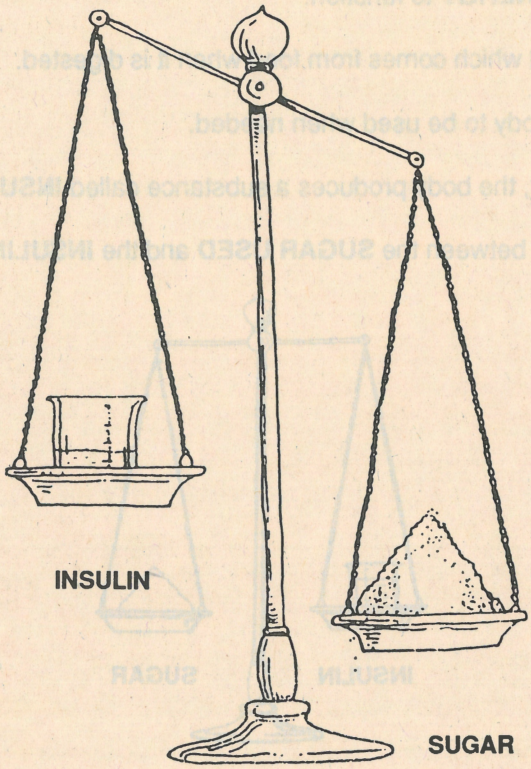
C. ☐ A body chemical called insulin controls the sugar level of the body.

21-2

A. T B. F C. T

21-3

DIABETES is a condition in which the body does **NOT** produce enough insulin, causing the sugar level to be **OUT OF BALANCE**.



To balance the sugar level, a **DIABETIC** (person with diabetes) may take prescribed amounts of insulin.

21-4

Mark each statement true (**T**) or false (**F**).

A. ☐ A diabetic lacks the required amount of insulin to keep the sugar at a normal level.

B. ☐ Insulin can be taken by anyone without instructions from a doctor.

C. ☐ A diabetic takes insulin to regulate the use of sugar by the body.

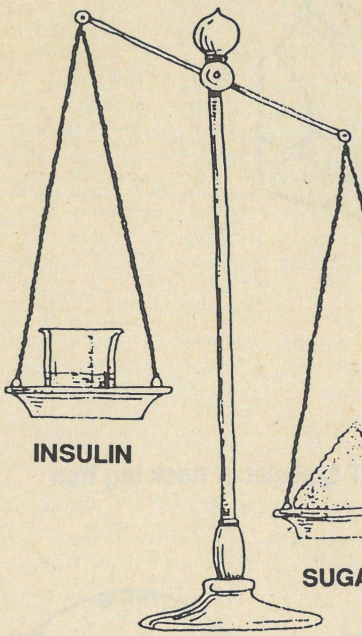
21-4

A. T **B.** F **C.** T

21-5

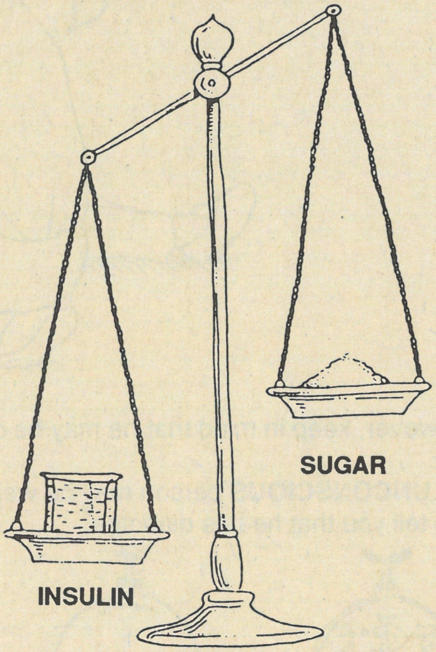
An **EMERGENCY** results when a diabetic has in the body -

NOT ENOUGH INSULIN
(DIABETIC COMA)



- Accidental underdose

TOO MUCH INSULIN
(INSULIN SHOCK)



- Accidental overdose
- Too much exercise
- Insufficient food

21-6

Which of the following situations may lead to a diabetic emergency?

A. ☐ A man forgets to take his prescribed amount of insulin.
B. ☐ An elderly man eats too many sweets.
C. ☐ A diabetic misses dinner.
D. ☐ A teenage diabetic competes in a bicycle race.

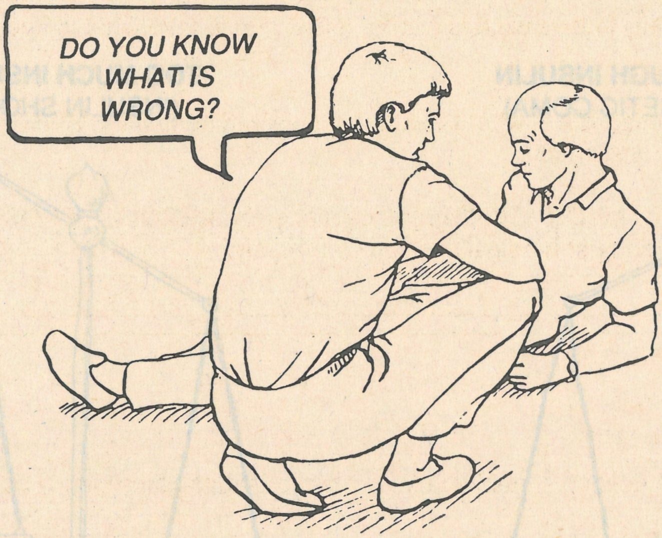
21-6

A. ☑ **C.** ☑ **D.** ☑

HOW TO IDENTIFY A DIABETIC EMERGENCY

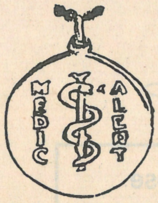
21-7

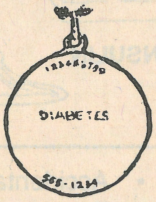
A **CONSCIOUS** diabetic will be able to tell you what is wrong when a diabetic emergency occurs.

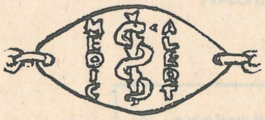

DO YOU KNOW WHAT IS WRONG?

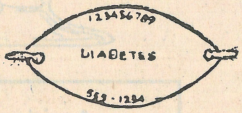
However, keep in mind that he may be confused.

An **UNCONSCIOUS** person may be wearing a **MEDIC-ALERT** bracelet or neck tag that will tell you that he has diabetes.


MEDIC
ALERT


123456789
DIABETES
555-1234


MEDIC
ALERT


123456789
DIABETES
555-1234

21-8

Which of the following actions would help you to assess a casualty's distress as a diabetic emergency?

A. ☐ Wait 10 minutes to see if his condition improves.

B. ☐ Search the unconscious casualty for some information that identifies him as a diabetic.

C. ☐ Ask the conscious casualty about his condition.

D. ☐ Keep asking him questions, even if his response does not make sense.

21-8

B. ☑ C. ☑

FIRST AID FOR A DIABETIC EMERGENCY

21-9

When a diabetic emergency occurs, you should **QUESTION** the **CONSCIOUS** casualty.

If the conscious casualty knows what is wrong, assist him to take what is needed - **SUGAR** or **INSULIN**.

If the casualty is confused about what is required, give him something **SWEET** to eat or drink and get medical assistance.

If the casualty becomes **UNCONSCIOUS**, place him in the **RECOVERY POSITION**, monitor his breathing and get medical assistance urgently.

21-10

Which of the following actions should you take when a diabetic emergency occurs?

	Yes	No	
A.	☐	☐	Give a conscious diabetic several glasses of cool water to drink.
B.	☐	☐	Give a conscious diabetic a cup of sweeetened tea if there is any doubt about giving him insulin.
C.	☐	☐	Send someone to telephone for medical assistance if the sweetened drink did not improve the casualty's condition.
D.	☐	☐	Place an unconscious diabetic in an appropriate position to ensure adequate breathing and obtain medical help immediately.
E.	☐	☐	Help a conscious casualty to take his insulin if he says he requires it.

21-10

A. No B. Yes C. Yes D. Yes E. Yes

21 -11

HOW TO RECOGNISE AN EPILEPTIC FIT

EPILEPSY is a medical condition which is a disorder of the nervous system. It may result in recurring attacks called **EPILEPTIC SEIZURES** (fits). In most cases, this condition is controlled by medication.

An **EPILEPTIC FIT** may come on **SUDDENLY** and be **BRIEF**.

Any or all of the following signs and symptoms will help you to identify an epileptic fit -

SIGNS

You may observe:

- Fainting
- Sudden loss of consciousness
- Noisy breathing
- Frothing from the mouth
- Grinding of the teeth
- Convulsions (uncontrolled muscle spasms or jerking)
- Loss of bowel and/or bladder control

SYMPTOMS

The casualty may complain of:

- Sensation that a fit is about to occur (aura)

On regaining consciousness the person will be unaware of recent events and be confused.

21-22

Mark each statement true (T) or false (F).

A. ☐ A person with epilepsy usually has incidents without warning.

B. ☐ Epileptic fits are usually of short duration and may occur any time.

C. ☐ A person who has passed out during an epileptic fit may not remember the incident on recovery.

D. ☐ During a fit, a person's limbs may tighten and he may gasp for air.

E. ☐ A person's mouth is usually dry and hangs open during an epileptic fit.

21-12

A. F B. T C. T D. T E. F

21-13

FIRST AID FOR AN EPILEPTIC FIT

When a person is having an epileptic fit, you should attempt to **PROTECT** him from injury during the period of convulsions.

You should -

- Clear the area of onlookers to ensure **PRIVACY** for the casualty
- Clear the area of **HARD** or **SHARP OBJECTS** that could cause injury
- Guide but **DO NOT** restrict his movements
- Attempt to maintain an **OPEN AIRWAY**
- Wipe away saliva but **DO NOT** attempt to force the mouth open

When convulsions have ceased, place him in the **RECOVERY POSITION** and **MONITOR BREATHING**. Obtain medical assistance, if necessary, or advise the casualty to seek medical advice.

21-14

A man in a crowded store suddenly falls to the floor and goes into convulsions. What should you do?

		Choice 1				**Choice 2**
A.	☐	Tell all bystanders to form a circle around the man.	**OR**	A.	☐	Enlist the help of some bystanders to keep people away from the man.
B.	☐	Take away all dangerous objects near the man.	**OR**	B.	☐	Place a blanket around him to protect him.
C.	☐	Hold his arms firmly to prevent injury.	**OR**	C.	☐	Watch him closely to ensure he does not hurt himself.
D.	☐	Observe him constantly and try to ensure that he is breathing.	**OR**	D.	☐	Hold his jaw apart to open his airway.
E.	☐	Following the fit, position him to maintain an open airway.	**OR**	E.	☐	Following the fit, leave him to himself.

21-14

A. 2	B. 1	C. 2	D. 1	E. 1

HOW TO RECOGNISE CONVULSIONS IN CHILDREN

21-15

When a child has a high temperature, he may go into **CONVULSIONS.**

Fever convulsions can be recognised by any or all of the following signs -

SIGNS

You may observe:

- Uncontrolled muscular contractions of the face and limbs
- Rigid body arched backward
- Blood vessels of the face and neck protruding (congestion)
- Holding of the breath
- Froth at the mouth

21-16

Which of the following may occur when a three-year-old has convulsions brought on by a very high temperature?

A. ☐ His arms and legs hang loosely.

B. ☐ Foam appears around his lips.

C. ☐ He seems to stop breathing for short periods of time.

D. ☐ His body tightens with head and feet pressed back.

E. ☐ The veins on his neck are standing out.

21-16

B. ☑ C. ☑ D. ☑ E. ☑

FIRST AID FOR CONVULSIONS IN CHILDREN

21-17

When a child is having convulsions, you should -

- **PROTECT** him from injury but **DO NOT** restrain him
- **LOOSEN** constrictive clothing
- Gently attempt to maintain an **OPEN AIRWAY**

Following the convulsions, you should -

- Place him in the **RECOVERY POSITION**
- If feverish **COOL** the child
- Reassure the person with the child
- Obtain **MEDICAL ASSISTANCE**

21-18

Which of the following should you do when a two-year-old boy is having convulsions?

	Yes	No	
A.	☐	☐	Hold him flat on his back.
B.	☐	☐	Unbutton his shirt at the neck.
C.	☐	☐	Make sure that he is breathing.

When the convulsions have ceased, you should -

	Yes	No	
D.	☐	☐	Place him in the recovery position.
E.	☐	☐	Tell his mother not to worry
F.	☐	☐	Call for medical help.
G.	☐	☐	Lower his body temperature.

21-18 A. No B. Yes C. Yes D. Yes E. Yes F. Yes G. Yes

REVIEW: MODULE 21

21-19

Several casualties are described below.

Match each of the casualties with the most appropriate immediate first aid. The same first aid procedures may apply to more than one casualty.

	Casualties		**First Aid**
A. ☐	A man is having convulsions and frothy saliva around his mouth.	1.	Place the person in the recovery position and monitor breathing.
B. ☐	A conscious diabetic is unsure whether he needs insulin or sugar.	2.	Protect the casualty from injury and attempt to maintain an open airway.
C. ☐	A two-year-old feels hot to the touch, is convulsing and has froth around his mouth.	3.	Give the person something sweet to eat or drink.
D. ☐	Following convulsions, an epileptic is lying on his back, dazed and confused.	4.	Place the person in the recovery position and obtain medical assistance urgently.
E. ☐	An unconscious person is wearing a Medic-Alert bracelet which identifies him as a diabetic.	5.	Protect the casualty from injury and attempt to lower body temperature and maintain an open airway.

21-19

A. 2 **B.** 3 **C.** 5 **D.** 1 **E.** 4

21-20

Mark each statement true (**T**) or false (**F**).

A. ☐ The use of sugar in the body is regulated by insulin.

B. ☐ A diabetic emergency occurs when there is too little or too much insulin in the body.

C. ☐ A Medic-Alert tag gives detailed information about the first aid to be administered.

D. ☐ During an epileptic fit, a person may have convulsions and noisy breathing.

E. ☐ A child with a very high temperature may go into convulsions.

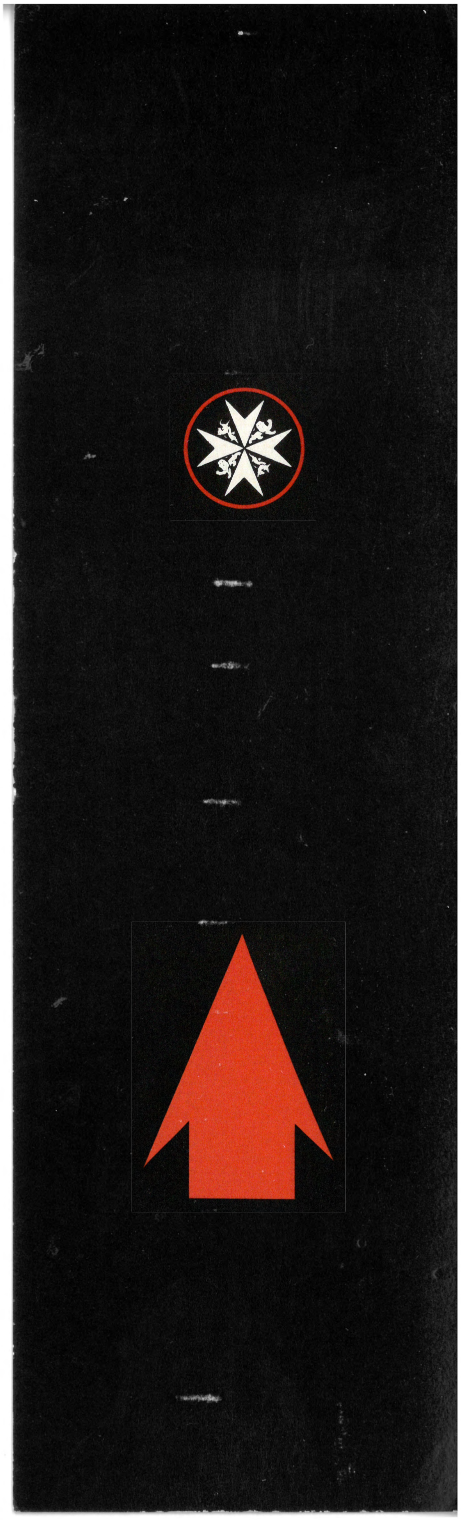
F. ☐ The aim of first aid for an epileptic fit is to protect the person from injury and maintain an open airway.

21-20

A.	B.	C.	D.	E.	F.
T	T	F	T	T	T

For more information on these topics, refer to:
Emergency First Aid Safety Oriented, First Edition (Revised), Chapter 13

END OF EXERCISE 21



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Elective Exercises

6. Fractures
7. (There is no workbook exercise for *Choking - Casualty Found Unconscious)*
8. Head and Spinal Injuries
9. Joint Injuries and Rescue Carries
10. Chest Injuries
11. Hand Injuries
12. Eye Injuries
13. (There is no workbook exercise for *Multiple Injury Management)*
14. (There is no workbook exercise for *One-Rescuer CPR)*
15. Pelvic and Abdominal Injuries
16. Child/Infant Resuscitation
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18. Burns
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20. Heart Attack and Stroke
21. Medical Conditions (Diabetes, Epilepsy and Convulsions)

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